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TRENDS IN AMERICAN DERMATOLOGY

PRESIDENT'S ADDRESS

WILLIAM H. GUY, M.D.

PITTSBURGH

Presidential addresses in the past have dealt with various scientific subjects and with the past and future of the American Dermatological Association and of the dermatologic branch of medicine. Little of general interest has been neglected. I have been tempted to point out advantages of discontinuing this part of the annual program. An additional reason will, no doubt, be credited to the present discussion. The past lives in the personalities and accomplishments of the dermatologists of the past. The future is subject to many influences beyond control, but present day dermatologists are, to a certain extent, responsible to future generations, because present policies and practices will bear on the future of American dermatology quite as definitely as the past does on the present. Therefore, it seems desirable to have a "fireside chat" about present day dermatologists, their practices and policies. Certain trends in this specialty determined by social, geographic and political considerations are "viewed with alarm" or "pointed to with pride" and personal satisfaction. Reactions to these forces are individual and likely to be colored by personalities. Therefore, the following remarks reflect my ideas and in no manner express settled policies of the American Dermatological Association. It is hoped that informal discussion may be stimulated, to the end that some advantage may accrue to dermatology.

Local and sectional meetings have obviated the necessity of clinical sessions, thus enabling this association to meet in various resorts and places of general interest, adding materially to creature comforts and to the esprit de corps. Recreation tempers the tedium of continuous scientific sessions, and the trend toward more social activities has increased the attendance and has attracted a much desired and growing number of women.

Geographic and political changes incidental to the war and to general world unrest entail adjustments in dermatologic training. American

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training centers have been stimulated to increased activity, and in some instances they have been overtaxed by increased demands for instruction, since postgraduate schools abroad are not available. Graduate education in the United States has benefited enormously. However, the greatest single factor in establishing higher standards in dermatologic education in this country is the American Board of Dermatology and Syphilology. It has been necessary for some institutions to broaden their courses; some have even experienced difficulties in meeting the requirements. Depending on whether certification shall be based on the minimum requirements to insure a safe practice of the specialty or on the highest possible requirements, the examination in the future may be modified. At present, certainly, any examination that can be passed by the members of the board is not contraindicated, and an interchange of questions accomplishes this purpose. If it seems advantageous to limit the scope of examination instead of expanding it, careful selection of postgraduate students would obviate the necessity for examination in the basic sciences. It may prove advantageous to examine candidates for certification immediately after completion of three years of postgraduate work, instead of two years later, because at that time students are better prepared. Certainly such a plan would in no way detract from the high standards established.

Registration in the Section on Dermatology and Syphilology of the American Medical Association continues to grow. Meeting rooms are taxed beyond capacity year after year. The quality of the programs is a credit to the great organization of American physicians of which it is a part. This body deserves the active support of every dermatologist in the country. It is my opinion that no physician should be considered for membership in special societies who has not "earned his spurs" in the parent organization.

The American Academy of Dermatology and Syphilology meets a long-felt need in that it presents an annual "refresher" course for busy clinicians. The popularity of this organization is attested by the large membership and attendance. It is a living monument to its founders. The enthusiasm of its members is not paralleled by that of any other group. One is impressed by the fact that excellent clinical work is being done in remote corners of the country by dermatologists who do not write or become active in national or sectional groups. A fair percentage of enthusiastic members of the academy represent this group. It may be anticipated that a number of these may be stimulated to worth while research. Therefore, it is suggested that public speaking and medical writing might advantageously be included in academy programs and added to postgraduate courses. Many really important communications receive but scant attention because they are poorly written and presented.

It is not fitting at this time that I dwell at length on the glories of the American Dermatological Association, but I can perhaps, in good taste, take its members to task. Membership in the American Dermatological Association should mean more than attending once in three years and submitting a paper once in five years. As an example of dereliction, it may be pointed out that a relatively small percentage of the members respond promptly when, for instance, a special communication is forwarded asking for specific information. Also, too frequently final action is criticized by members who had ample opportunity to express their opinions before action was taken. The officers and committee members welcome suggestions and constructive criticism, and certainly they deserve cooperation.

It necessarily follows that with the rapidly developing national defense program dermatologists will be needed to complement the expanding medical departments of the Army and Navy. Experience gained in the World War indicates the value of trained dermatologists and syphilologists in examining recruits and in the care of soldiers on active duty. During the World War the number of dermatologists in the Army was entirely inadequate. In case of war it is probable that dermatologic consultants will be stationed in Washington, D. C., and that physicians trained in this field will be assigned to cantonments and troops in active service. With the increasing number of men specializing in dermatology and syphilology, no difficulty should be experienced in meeting all requirements.

Unfortunately, a goodly percentage of physicians with special dermatologic training are not Fellows of the American Medical Association or active members of state and county medical societies. Overemphasis on the specialty will react disadvantageously on dermatology in the long run. Membership in general medical societies should be requisite even to membership in local dermatological societies. If organized medicine is not vigorously supported, dermatology will suffer. The country is full of well meaning but pernicious-policied foundations and budding misanthropists who will gladly take over the practice of medicine if passive acquiescence is not supplanted by active cooperation with the carefully considered policies of the American Medical Association.

To be a good dermatologist is to be a good physician and to be a good physician is to deserve in some measure Stevenson's eulogy:[1]

> There are men and classes of men that stand above the common herd: the soldier, the sailor, the shepherd not infrequently; the artist rarely; rarelier still the clergyman; the physician almost as a rule. He is the flower, such as it is, of our civilization; and when that stage of man is done with, and only remembered to

1. Stevenson, R. L.: Dedication, in Underwoods, in Complete Works, Biographical Edition, New York, Charles Scribner's Sons, 1925, vol. 16.

be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that, he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing.

The close of the sixty-fourth meeting of the American Dermatological Association will mark the happiest of personal memories. The privilege of serving as president of this association is one humbly shared with the outstanding men in American dermatology. My gratitude for the support, toleration and friendship of the members is profound. But a touch of sadness tinges the joy of this hour, for I realize that the great honor of addressing the American Dermatological Association as its president is in one respect a swan song. This is the top of the hill. As I hand the gavel to my successor, I beg to retain the most precious of honors bestowed on me: the friendship of the members.

XANTHOMA ERUPTIVUM (XANTHOMA DIABETICORUM)

FRANK C. COMBES, M.D.
AND
HOWARD T. BEHRMAN, M.D.
NEW YORK

In the past few years numerous scientific observations have been forthcoming on the subject of the lipoid dyscrasias. Various new concepts have been advanced to clarify the pathogenesis and classification of the disorders of fat metabolism.

Within the province of dermatology the xanthomatoses have occasioned considerable study and research. Nevertheless, confusion still exists as to the exact classification of the condition known as xanthoma diabeticorum. In this paper we shall attempt to trace the pathogenesis of this disease, as well as its relations to certain allied disorders of lipoid metabolism. For reasons to be discussed, we suggest that the more descriptive term of xanthoma eruptivum be substituted for the misnomer xanthoma diabeticorum.

HISTORICAL INTRODUCTION

The disease was first described by Addison and Gull, in 1850. Their description was so astute and so precise that very few additions or alterations in the clinical appearance of the disease have since been made. In a diabetic patient under their observation a cutaneous eruption developed with dramatic suddenness. This eruption first

> . . . appeared on the arms, at first apparently of a lichenous character. In the course of ten days it had extended over the arms, legs and trunk both anteriorly and posteriorly, also over the face and into the hair; it consisted of scattered tubercles of various sizes, some being as large as a small pea, together with shining colorless papules. They were most numerous on the outside and back of the forearm and especially about the elbow and knees, where they were confluent. Along the inner sides of the arms and thighs they were more sparingly present, and entirely absent from the flexures of the larger joints. Besides the compound character produced by the confluence of two or three large tubercles, many of the single ones had also a compound character, or appeared to have such, as shown by the prominent whitish nodules upon them. Some looked as if they were

From the Department of Dermatology and Syphilology, New York University College of Medicine, and the Third Medical (New York University) Division, Bellevue Hospital, service of Dr. Frank C. Combes.

beginning to suppurate, and many were not unlike the ordinary Molluscum, but when incised with a lancet they were found to consist of firm tissue, which, on pressure, gave out no fluid save blood. They were of a yellowish color, mottled with a deepish rose-tint, and with small capillary veins here and there ramifying over them. They were accompanied with a moderate degree of irritation, hence the apices of many were rubbed and inflamed.

Despite this excellent description, the disease was not separated from the other xanthomas until 1883, when Morris, describing the fifth case, clearly differentiated it from other cutaneous diseases.

REVIEW OF THE LITERATURE

There have been 131 cases reported since the description of the disease by Addison and Gull. Seventy-four of these cases, including 3 of his own, were collected by Major, and 23 cases were added to these by McGavack and Shephardson. The entire group of cases reported at the time of writing are listed in the bibliography. In both of these previous reports cases were included which are now properly classified as cases of xanthoma tuberosum or xanthoma disseminatum. In addition, Major excluded those cases in which there was no glycosuria,[1] although, as we shall indicate, the presence of dextrose in the urine is not essential for the diagnosis of the disease.

ETIOLOGIC CONSIDERATIONS

Incidence.—Sex: Xanthoma eruptivum is uncommon in women. In the cases reported by Major there were approximately 7 men to every woman.

Age: The disease may occur at any age. Wirsing reported its occurrence in a child of 2 years, and Joslin reported the disease in a man of 62 years.

Race: The racial incidence is similar to that of diabetes, and the condition is therefore most common in the Jewish race. The susceptibility is believed to be acquired rather than hereditary and is variously attributed to a sedentary life, obesity and a preference for a carbohydrate diet.

Diabetes Mellitus: Joslin, in a recent analysis of 1,000 cases of severe diabetes, found cutaneous xanthoma (type not stated) in only 6, and it is his conclusion that the disturbance of intermediary fat metabolism is not primarily a part of the diabetic process but is secondary to it. As Joslin said, "Severe diabetes was, and is, the only disease in which lipemia is frequent enough to be of special significance." If an abundance of fat is given to a diabetic patient in order to obtain

1. Hutchinson (1893), Robinson (1891), Sequeira (1907), Fox (1879) and Cavafy (1888).

a required number of calories, a secondary change or disturbance in the intermediary fat metabolism may be brought about. With adequate dietary control, cutaneous xanthomas are of less frequent occurrence. Before the introduction of insulin, the dietetic treatment of diabetes was continually changing; at different times fats predominated as the chief foodstuff, then proteins and finally carbohydrates. With the advent of insulin, less emphasis has been placed on certain components of the diet, and so the hyperlipemia of diabetes, accompanied by xanthoma eruptivum, has become much less frequent.

Predisposing Influences.—Obesity: The incidence is greater in the obese person, just as diabetes mellitus is more frequent in those who are overweight for their age and height.

Endocrines: In the clinic and in the laboratory recent observations have indicated that the pituitary gland may influence the metabolism of both fats and carbohydrates. Houssay called attention to the frequent occurrence of diabetes in patients with acromegaly. Lucke found high values for fasting blood sugar in patients with acromegaly. Hoffmann and Anselmino reported an increase in the ketone body content of the blood following the use of pituitary extracts. They stated the belief that this effect is produced by a special *Fettstoffwechselhormone,* or fat metabolism hormone. Whether this ketogenic hormone has any decided influence on the disposition of fat tissue in human beings is questionable, but the occurrence of xanthomas together with pituitary disorders has been reported with increasing frequency.

Trauma: The lesions of xanthoma eruptivum sometimes appear in the sites of previous injury to the skin. Major described the development of several nodules on the arm of a 16 year old boy following mosquito bites.

Cause.—The fundamental cause of xanthoma eruptivum is a disturbance in the lipid metabolism. A discussion of lipid physiochemistry is beyond the scope of this paper. However, a classification of fats and related compounds, as suggested by Bloor, will clarify the presentation. Bloor grouped the lipids into three major classes: 1. The simple lipids are esters of the fatty acids with various alcohols and include the fats (neutral fats) and waxes. 2. The compound lipids are esters of the fatty acids containing other groups in addition to alcohols and fatty acids; they include the phospholipids (lecithin and cephalin), the glycolipids (cerebrosides) and the aminolipids and sulfolipids. 3. The derived lipids are substances derived from the aforementioned groups by hydrolysis, and they include the fatty acids of the various series and the sterols (cholesterol and cetyl alcohol).

Chauffard and Laroche were the first to demonstrate a decided increase in the blood cholesterol in patients with xanthomatosis, and they stated that the tumors were due to the hypercholesteremia. The cause of

the hypercholesteremia was as great a mystery then as it is now, although the liver was indicted as the most likely organ related to disorders of fat metabolism. Bloor then showed that the occurrence of the increased cholesterol content in the blood was an invariable concomitant of pathologic hyperlipemia. Weidman studied experimental xanthosis in man and in animals and came to the conclusion that although cholesterol may play an accessory role, other fatty substances are probably of primary significance. Wile, Eckstein and Curtis, in a study of xanthomatosis in general, found that the chemical analysis of xanthomatous lesions showed an excess of fatty substances other than cholesterol. They observed that cholesterol occurs in xanthomatous lesions only to the extent of 10 per cent of the total lipids and that xanthoma frequently occurs without coexistent hypercholesteremia. In his discussion of this report, Weidman stated that the xanthic diseases are due to a disorder of neutral fat metabolism and that the appearance of cholesterol is due to a subsequent change in the molecular structure of neutral fat. He aptly remarked that there are probably many forms of lipids which still remain unknown to science.

In the usual type of hyperlipemia the total fat in the blood is the first to increase, then the lecithin and finally the cholesterol. When the fat content of the blood returns to normal, the individual lipids decrease in the same order. The mechanism of hyperlipemia and hypercholesteremia, as already stated, is unknown. Fishberg suggested that in patients with nephrosis the hyperlipemia may represent an attempt to regulate the osmotic pressure, which is lowered as a result of depleted plasma proteins, but this does not occur in those with the xanthomatoses. The pituitary gland has also been ascribed a role in the disturbances of fat metabolism. It has been suggested that in addition to the ketogenic hormone another substance is secreted by the anterior part of the pituitary gland. This substance acts on the liver to produce an increase in plasma cholesterol and a disturbance in the ratio of the cholesterol to cholesterol esters. This in turn leads to a precipitation of cholesterol esters in the tissues with the resulting formation of xanthomas. The association of disorders of the pituitary gland, such as acromegaly, with the xanthomatoses gives support to this hypothesis.

From the previous discussion it is evident that although xanthoma eruptivum is most commonly associated with diabetes mellitus, it is not produced by the disturbance in carbohydrate metabolism. Rather, it is due to the associated hyperlipemia and to the hypercholesteremia. This point has been proved in several cases in which the patients have become aglycosuric, but the xanthomatous lesions persisted until the blood lipids were correspondingly lowered. Templeton reported a case in which the blood sugar was 264 mg., the blood cholesterol 769 mg. and the blood lipids 7,900 mg. per hundred cubic centimeters at the height of the eruption. Complete involution of the lesions occurred

when the cholesterol dropped to 270 mg. and the total lipids to 2,127 mg. per hundred cubic centimeters, even though the blood sugar at that date was 294 mg. per hundred cubic centimeters, a higher figure than at the maximal evolution of the lesions. Buchanan and Indelicato reported a similar case in which the lesions disappeared as the value for blood cholesterol dropped but reappeared when the cholesterol level rose again. The highest value for blood plasma cholesterol observed in a patient with xanthoma eruptivum was 1,800 mg. per hundred cubic centimeters and was reported by Engman.

Nicholson stated that there are two schools of thought regarding the hypercholesteremia. Members of one group believe that a high level of blood cholesterol is necessary for the development of the lesions. Members of the other group doubt that concentration of cholesterol in plasma is the determining factor; they believe that xanthomas are formed as the result of a disturbance in the normal balance between cholesterol, cholesterol esters and other lipids, resulting in an unstable colloid emulsion from which esters of cholesterol are deposited in xanthoma cells. Montgomery and Osterberg, in a study of 9 cases, stated that the cholesterol content was not elevated in proportion to the levels of the other lipids. In addition, it did not drop as quickly with a therapeutic regimen as did the total fatty acids and the total lipids.

Thannhauser and Magendantz stated that xanthoma eruptivum is a symptom of hyperlipemia and may occur with diabetic hyperlipemia as well as with hyperlipemia observed during the course of a xanthomatous disease (as in xanthomatous biliary disease). These authors stated the belief that this disease is due to a storage of lipids which are taken up from the blood by the reticular cells. They labeled xanthoma diabeticorum the eruptive form of the xanthomatoses and claimed that it is etiologically distinct from all xanthomas due to primary xanthomatosis, a systemic disease. In their analysis, they stated that many authors designate as xanthoma diabeticorum not only the eruptive form, which appears and disappears simultaneously with the hyperlipemia, but also xanthoma tuberosum and xanthoma disseminatum, which are persistent. This confusion results from the fact that either xanthoma tuberosum or xanthoma disseminatum may be observed together with the diabetic state. In cases of this kind xanthoma disseminatum is a feature of primary xanthomatosis when visceral organs are involved at the same time as the skin. Xanthoma eruptivum is on the contrary not the cause but the sequel of a complication of diabetes, namely, hyperlipemia. Other factors besides lipid metabolism which influence the production of the eruptive xanthomas include liver function, pituitary hormones and the fat-soluble vitamins (A and D). Until further investigative work is carried out, we can with exactness state only that xanthoma eruptivum is due to a disorder of the intermediary fat metabolism.

HISTOLOGIC PICTURE

The histologic picture frequently resembles that of the ordinary xanthoma in that there is an increased connective tissue proliferation of the cutis with the presence of numerous fibroblasts. True foam cells and Touton giant cells are typically present but are not as common as in ordinary xanthomas. With special stains, large numbers of cells may be demonstrated to contain excessive amounts of lipids composed of neutral fats, fatty acids, lipid bodies and cholesterol. Inflammatory changes are usually encountered and consist of infiltrations of polymorphonuclear leukocytes with occasional small mononuclear cells. Montgomery and Osterberg showed that as the lesions undergo involution, the cholesterol and other lipids lie extracellularly as well as intracellularly, especially about the blood vessels and in the connective tissue histiocytes.

SYMPTOMS

The eruption is usually of sudden onset. The primary lesions are small, pinhead-sized to pea-sized, conical and pointed papules with red bases and surrounding inflammatory areolas. The apexes are yellow and closely resemble pustules in appearance. These papules are exceedingly numerous and discrete, but they may become confluent to form larger oval or linear nodules. The lesions are usually soft and compressible, but they may be firm. The yellowish centers of the lesions are often covered with thin radiating telangiectases. The favorite sites for grouping of the lesions are the extensor surfaces of the extremities, the elbows, knees and buttocks and the oral mucosa. As with other xanthomas, the lesions are most apt to occur where there are alterations of tension in the skin (joints) and pressure on the capillary vessels. The palms and soles frequently exhibit a diffuse yellowish coloring which is attributed to carotenosis. Itching may be present and is usually mild.

REPORT OF CASES

Case 1.—A white man aged 56 was admitted to the Bellevue Hospital on Sept. 25, 1940, with the chief complaints of weakness and a "rash" over the entire body. The patient had been aware of the presence of psoriasis for many years, but this "rash" was different. The family history was irrelevant, although the patient stated that his father had "sugar" in his urine. The symptoms of polydipsia, polyuria and nocturia dated back to January 1940. At that time he was treated by a private physician for an "enlarged liver" and for chronic alcoholism. In August 1940 the patient noted small pinkish yellow nodules on both arms and forearms, which were attributed to the medication he was taking. However, the tumors increased in number, and the patient went to the Bellevue Hospital outpatient department, where he was referred to the dermatologic clinic. A diagnosis of xanthoma eruptivum was made from the cutaneous lesions, and a urinalysis showed the presence of dextrose (3 plus reaction) and acetone (1 plus reaction).

The patient was referred to the hospital on September 25. Physical examination revealed an obese white man. There was an acetone odor to the breath. Examination of the chest gave negative results. The heart was enlarged, and

there were no audible murmurs. The liver was also enlarged. On the outer aspects of both arms from the wrist to the shoulder, but more numerous over the forearm and elbow, there were small papules, varying in size from 0.2 to 1 cm. Similar lesions were present in the axillas and on the buttocks, thighs and legs and consisted of discrete firm yellowish pink papules. They were surrounded by a minute erythematous zone and were not tender or painful but slightly pruritic. Of particular interest was the presence of several of these yellowish nodules in a psoriatic lesion on the left thigh.

The urinalysis was repeated and showed a 4 plus reaction for dextrose and a 1 plus reaction for acetone. The patient was given a diet consisting of carbo-

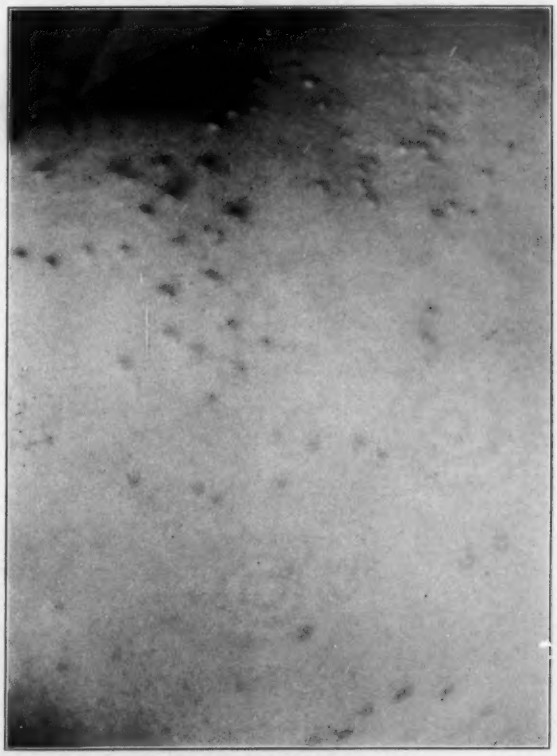

Fig. 1 (case 1).—Numerous lesions of eruptive xanthoma on the left shoulder.

hydrate 100 Gm., protein 85 Gm. and fat 60 Gm., and a total dose of 30 units of insulin daily. The sugar content of the blood was 160 mg. per hundred cubic centimeters on September 26, and the cholesterol amounted to 211 mg. (single determination). The Wassermann reaction was negative. The urine continued to show the presence of dextrose, and the dose of insulin was increased to 40 units daily. The dextrose and acetone disappeared, and the patient was then given 40 units of protamine zinc insulin every morning. The blood dextrose on September 30 was 100 mg. per hundred cubic centimeters. The diabetes was kept under control, and the xanthomatous papules began to disappear after one week in the hospital. A nodule removed for biopsy on September 20 showed hyper-

plasia of the epidermis, increase in fibrous tissue and an infiltration of small mononuclear cells. With special stains typical foam cells were demonstrated.

The patient's further course was uneventful. The cutaneous lesions gradually flattened out, and the patient was discharged from the hospital on October 31.

CASE 2.—In a very obese white woman aged 48 an extensive cutaneous eruption developed suddenly. The family history was irrelevant, and the patient's past history was not significant.

When the patient was first seen the sites of the eruption were the extensor surfaces of the forearms, from the elbows to the wrists, and the fronts of the knees, including the lower third of the thighs and the upper part of the legs.

Fig. 2 (case 2).—Lesions of eruptive xanthoma on the elbows.

On the locations mentioned were scattered great numbers of pinhead-sized to pea-sized papules of a dusky red inflammatory nature, most of which were capped by a whitish yellow summit. In fact, the eruption was rather classic in its similarity to the usual description. The lesions observed from a short distance and in the ensemble were seemingly pustules; on close scrutiny, however, they were somewhat hard to the touch and had the characteristic red inflammatory base with the yellow apex. There was no tendency toward grouping, as has been reported in other cases. The lesions were rather thickly distributed and were discrete. The duration at the time of this examination was three months.

The subjective symptoms were of little consequence; some slight itching was experienced at times, though it was a minor factor.

The urine contained 1 per cent of dextrose. The blood sugar amounted to 360 mg. per hundred cubic centimeters.

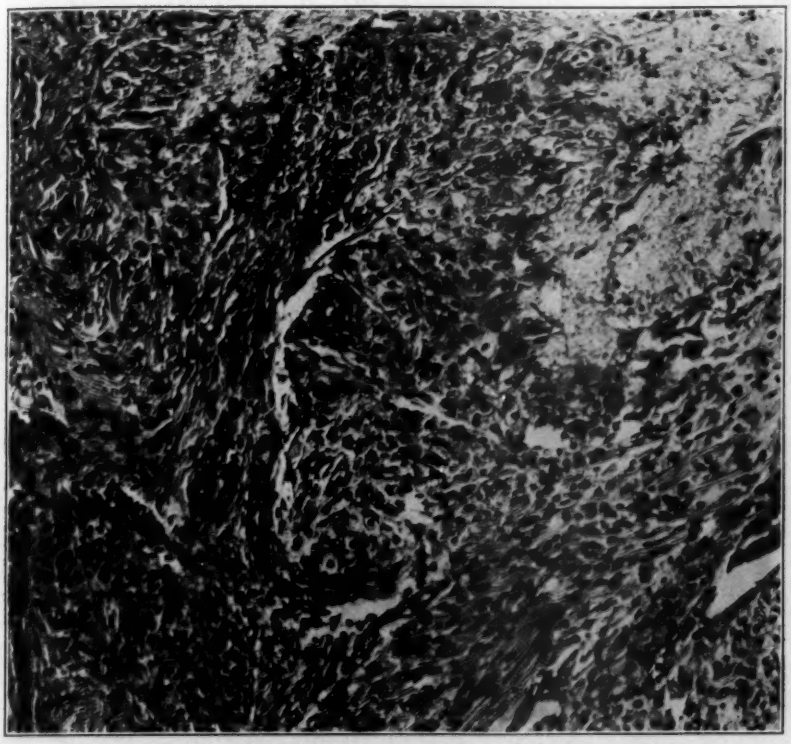

Fig. 3 (case 2).—Section showing an infiltration of the corium with irregularly shaped masses of globular single and multinucleated cells.

Fig. 4 (case 2).—Typical "foam" cells (high magnification).

Histologic examination of the section showed an infiltration of the whole of the corium with irregularly shaped masses of globular single and multinucleated cells. The cellular aggregations were surrounded by collagen bundles, giving an alveolar arrangement to the picture. Under high magnification, the cells showed a distinct spongioplastic network and a granular cytoplasm, which gave to them the so-called foamy appearance.

DIFFERENTIAL DIAGNOSIS

Xanthoma Tuberosum.—Lesions of true xanthoma are irregularly shaped isolated nodules, usually on the extensor surfaces of the arms, especially on the elbows, and on the buttocks. The surfaces of the lesions are hyperkeratotic. Unlike this type, lesions of xanthoma eruptivum are scattered and never appear in ridges, in mulberry-like or warty clusters or as a pedunculated nodule. In xanthoma tuberosum, the color is characteristically lemon yellow or, in older lesions, a deep reddish brown. The lesions are soft and are not surrounded by inflammatory areolas. They appear in ridges and clusters, especially around the bend of the elbow and the knee. Glycosuria is uncommon, although the blood lipids are elevated. Oral or laryngeal lesions are not encountered.

Xanthoma Disseminatum.—The differential diagnosis of xanthoma disseminatum from xanthoma eruptivum is similar to that of xanthoma tuberosum. Unlike the latter disease, however, xanthoma disseminatum is not associated with an elevation in the blood lipids. In addition, the cutaneous lesions of xanthoma disseminatum do not disappear with the low cholesterol and low animal fat dietary regimen which reduces the tumors of xanthoma tuberosum. Furthermore, oral and laryngeal lesions are frequently found in patients showing the disseminate type of xanthoma.

Erythema Multiforme.—The lesions are purplish red rather than yellow, and the distribution is usually limited to the extremities. Constitutional symptoms frequently accompany erythema multiforme. There is no concomitant glycosuria or hyperlipemia, and the histologic changes are totally unlike those of the xanthomas.

Urticaria Pigmentosa.—This condition is differentiated by the presence of dermographia, pruritus and pigmented areas and especially by the swelling, reddening and enlargement of the lesion when irritated. Histologic examination shows the presence of mast cells in urticaria pigmentosa, with no signs of foam cells or fatty masses. Glycosuria and hyperlipemia are not encountered.

COMPLICATIONS

Lipaemia retinalis is frequently encountered in patients with xanthoma eruptivum. It is due to the coexistent hyperlipemia. Smith

reported a case of purpuric and ulcerative lesions resembling necrobiosis lipoidica diabeticorum. Montgomery and Osterberg also reported the occurrence of ulceration in one of their cases.

WHAT IS EXTRACELLULAR CHOLESTEROSIS?

In 1933 Urbach described a single case of xanthic lesions which he named extracellular cholesterosis. The same case had previously been reported by Kerl under the title "multiple formation of nodes containing copious lipoid," but after many histologic examinations and laboratory analyses, Urbach showed that the cholesterol was never inside the cells and that there were no foam cells. The essential clinical features of the disease consisted of the sudden appearance of multiple reddish brown papules and nodules vaguely resembling erythema multiforme at their onset. The distribution was extensive, and the sites affected in particular were the extremities, the trunk and the mucosae. The lesions started as lentil-sized translucent nodules, sometimes with a small central "blister." Within the next few days the nodules became purplish with yellow central areas, and still later they became reddish brown. The lesions occurred in crops over a period of several years, and some of these nodules disappeared within a few days, while others responded moderately to roentgen therapy. The histologic picture was essentially similar to that of the xanthomas, except that Urbach stated that there was not the slightest indication of foam cell formation and the lipoid deposits were extracellular. Metabolic studies showed no evidence of diabetes, and there was hypocholesteremia. In the tissues the cholesterol : cholesterol ester ratio was reversed; in his case it was 3 : 1, whereas in a case of xanthoma it may be 1 : 5.

Since Urbach's description, another case has been reported by Laymon, and Montgomery reported a case of a condition which he believed was doubtfully similar to that described by Urbach.

A review of the original and of the recent pertinent literature belies the existence of such an entity. Thannhauser and Magendantz claimed that the eruptive xanthomas (xanthoma eruptivum) and extracellular cholesterosis are one and the same condition. The results of chemical examination of patients with the two conditions differ only because the quantity of material analyzed from eruptive xanthomas is minimal. In addition, the quality of the material is variable and uncontrollable in view of the minimal amount of pathologic tissue and the amount of healthy tissue which is chemically analyzed in the same specimen. Chemical analysis of pathologic material is of value only when a large amount of characteristic tissue, as in true xanthomas, is available for analysis. Thannhauser and Magendantz claimed that the clinical descriptions of both lesions is remarkably similar. Weidman stated: "It is questionable whether the policy adopted by Urbach is well advised

at a time when the number of cases comprising a group is still meager, as in the case of lipoid proteinosis and extracellular cholesterosis—at least for purposes of clinical classification." Montgomery and Osterberg described a case of so-called extracellular cholesterosis, but they observed foam cells laden with lipid. Even Urbach's illustrations in Jadassohn's handbook seem to indicate the presence of occasional foam and Touton giant cells. Montgomery stated that his type of fibrous xanthoma with inflammatory and granulomatous changes deserves further study before one can justly put cases of this type in a separate group. We concur with this observation, and we believe that the clinical and histochemical picture is similar to, if not identical with, that of xanthoma eruptivum. The hypocholesteremia may have existed with an elevation of the blood lipids, although the blood cholesterol is known to vary intermittently with menstruation, pregnancy and the climacteric, in addition to certain well known essential pathologic states.

PSEUDODIABETIC XANTHOMA

Weidman and Schaffer described a condition which they labeled pseudodiabetic xanthoma. They reported an involved case in which the necropsy revealed the presence of a carcinoma of the stomach, a tumor (xanthoma?) of the pons and cutaneous xanthomatosis. They remarked that the condition resembled xanthoma diabeticorum but lacked the essential disturbance of carbohydrate metabolism, as signified by glycosuria and hyperglycemia. As we have already stated, this disturbance is by no means essential. Their patient showed xanthomatous lesions with surrounding inflammatory areolas as in the eruptive xanthomas. The larynx was also infiltrated by xanthomatous lesions. The mode of development of the cutaneous eruption in this case was, however, totally different from that of xanthoma diabeticorum. The xanthic components were superimposed in part on a diffuse erythema of the face and in part on scaly foci (parapsoriasis) of the trunk and upper extremities. Hypercholesteremia was present but inconstant. Polyuria, polydipsia and dextrose intolerance were also observed. Whether this was due to a latent diabetic state or to the involvement of the pituitary gland it is impossible to decide. Cases of a similar condition have been separately described by Pollitzer, Darier, Crocker, Pusey and Johnstone. The condition described by them was supposedly of a type intermediate between xanthoma tuberosum and xanthoma diabeticorum. Lebedew reported a case of inflammatory xanthomatous lesions with polydipsia and polyuria but no diabetes. Finney, Montgomery and New, as well as Stryker, reported similar cases. From the previous discussion in this report, it is apparent that the lesions in most of these cases were actually eruptive xanthomas. As we have emphasized, the presence of diabetes mellitus is not essential for the

diagnosis, as the concomitant or isolated hyperlipemia is the primary etiologic factor. In the case reported by Weidman and Schaffer the number and complexity of the involved organs do not allow for a single diagnosis. However, the possibility of the occurrence of xanthoma eruptivum in the presence of a disseminate xanthomatosis (as well as other pathologic states) should be considered.

TREATMENT

The treatment of the disease is that of the underlying pathologic state. The resolution of the lesions depends on the disappearance of the hyperlipemia and hypercholesteremia and is influenced by the local blood supply of the lesions. The control of glycosuria alone is not sufficient; but when that control includes the reduction of the fat content of the blood as well, the xanthic nodules will disappear. Accordingly, a diet low in cholesterol and in animal fat, as well as a proper dietary and insulin regimen in the presence of an underlying diabetic state, will occasion the most rapid resorption of the lesions. As Montgomery cautioned, patients with this disease must be watched for signs of avitaminosis A, which is apt to appear with diets low in cholesterol and animal fat. Under treatment, the small "éléments miliaires" disappear in several weeks, but the larger "éléments lenticulaires" may remain. This observation was first made by Balzer and Marie. This occasional lack of response of the larger lesions may be due to permanent changes in the skin with fibrosis and scar formation. Roentgen therapy (filtered) may hasten involution of the lesions. The local injection of ether was recommended by Major but is painful and may lead to necrosis and scar formation.

SUMMARY

A review of 131 cases of xanthoma diabeticorum from the literature is presented. A study of the pathogenesis of the disease makes apparent the inaccuracy of the name xanthoma diabeticorum. We suggest the more appropriate title xanthoma eruptivum.

The symptoms, histologic picture and differential diagnosis of the condition are described. The diseases reported as extracellular cholesterosis and pseudodiabetic xanthoma are in all probability variants of xanthoma eruptivum.

The treatment of the disease is that of the underlying pathologic conditions, namely, hyperlipemia and hypercholesteremia.

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SYPHILIS OF THE CENTER OF THE FACE

HAROLD N. COLE, M.D.

JAMES R. DRIVER, M.D.

AND

HAL E. FREEMAN, M.D.

CLEVELAND

Syphilis of the center of the face has been known for many years, but few instances of its occurrence have been reported. The condition probably is rare. Church [1] stated that 1 in every 10,000 persons in this country is affected. Diday [2] carefully described it in 1883.

Lacapère,[3] in an interesting and inclusive monograph on syphilis in North African natives in 1922, reported that secondary syphilis is rarely seen in the natives but rather destructive tertiary-like transitional processes are seen frequently. Lacapère, like Fournier, called these "secondotertiary lesions." They are ulcerative and necrotic gummatous-like processes and apparently occur as a result of infection with an attenuated strain of syphilitic "virus" due to involvement in generation after generation without treatment. These syphilids usually are superficial and frequently are papular or vegetating.

The secondotertiary types are localized on the face, on the back of the neck, on the lower extremities and, exceptionally, on the trunk at sites of irritation. Early tertiary lesions are found in the same areas, while gummas may be found anywhere. Frequently we have observed lesions on the mucous membranes, but they have been less widespread, more ulcerating and more hypertrophic than those usually observed in Europeans.

According to Lacapère,[3] genuine tertiarism was widespread. For instance, 70 per cent of the syphilitic patients treated in Fez, Morocco, had cutaneous tertiary manifestations. Phenomena of the viscera and of the nervous system were rare, being observed in 10 per cent. Gummas, when seen, developed slowly by transition. Vegetating lesions,

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From the Department of Dermatology and Syphilology of Cleveland City Hospital and of Western Reserve University School of Medicine.

1. Church, F. H.: Syphilis of the Center of the Face, Bull. Hist. Med. **7**:705-718, 1939.

2. Diday, P.: A Treatise on Syphilis in New-Born Children and Infants at the Breast, translated by G. Whitley, New York, William Wood & Company, 1883, p. 285.

3. Lacapère, G.: La syphilis chez les indigènes de l'Afrique du Nord, Ann. d. mal. vén. **17**:321-370 and 493-515, 1922; abstracted, Zentralbl. f. Haut- u. Geschlechtskr. **7**:274, 1923; **8**:519, 1923.

due to trauma, and keloidal forms were mentioned. Papillary, verrucous, subcutaneous forms with sclerosis and subcutaneous gummas were also described. Gummas in the natives are more numerous and larger than in Europeans. In more than 10 per cent of the cases the gummas are on the lower extremities. Healing is followed by an eccentric or serpiginous phagedenism, or the gumma may penetrate, attacking muscles and bones. Secondary infections and gangrene occur as complications, and cicatrization and sclerosis follow the lesions. Gummatous infiltration spreads like a cuff between the skin and the aponeuroses, softens and discharges through several fistulas. Sclerotic areas are always found, especially on the lip, resulting in a hypertrophic syphiloma.

Mixed types of gummas were recorded, but the main varieties about the head are the following: (1) ulcerating syphilis of the center of the face (destroying nose, lips and bones of the nose), (2) gumma of the middle portion of the forehead (due to trauma in Mohammedan prayers) and (3) gumma of the temporal portion of the eyebrow. Ulcerating syphilis of the center of the face was described as a true regional form of gumma. An infiltrating phase, a phase of *ramollissement,* or softening, an ulcerative phase and a final phase of spontaneous scar formation were described and illustrated by photographs.

Church [1] credited Lacapère with naming the entity.

Frangenheim,[4] in discussing syphilis of the bones of the center of the face, stated that the upper jaw, and more particularly the hard palate, is more frequently involved than the lower. It may be destroyed by gummas of the floor of the nose or of the mouth, extending from the submucosa and periosteum (nasocranial osteitis of Fournier). The middle of the hard palate is more often attacked, while the sides or the alveolar processes are less frequently involved. There may be rapid destruction with ulceration, perforation and casting off of sequestrums.

Church [1] also mentioned the role of roentgenology in adding to the knowledge of syphilis of the center of the face. The roentgen observations are a loss of bony substance in the turbinates, vomer and hard palate and of the bony markings of the ethmoid and sphenoid sinuses, the degree of loss depending on the location, extent and severity of the process. The lesions may vary from minute changes to destruction of the turbinates, vomer and nasal bones; the entire body of the sphenoid may be destroyed, with death ensuing from extension of infection into the meninges.

Grön cited Pernhoffer's [5] statement that all endemic syphilis has a tendency to take certain courses, among which is that with manifestations

4. Frangenheim, P.: Syphilis der Knochen, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1928, vol. 17, pt. 3, p. 89.

5. Pernhoffer, cited by Grön, K.: Syphilisendemien, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1928, vol. 17, pt. 3, pp. 285-337.

in the skin. Such manifestations occur in the form of gummatous nodular serpiginous syphilids which spread over large surfaces and which, in healing, leave soft scars with pigmentation and hyperpigmentation. Lesions of long duration, especially on the face, may lead to fearful destruction, the nose often being lost. Thus Suzor [6] stated that "a man walking down almost every street in Tananariva sees people, especially women, with sunken-in noses." The lips, eyelids and eyes may suffer, and there may remain for the mouth only scars with a small opening through which nourishment may be taken with difficulty.

Tanner and also Ledermann [7] have called attention to the frequency of gummatous lesions of the nose and hard palate in patients with late congenital syphilis. Ledermann spoke of the saddle nose, "lorgnette" nose or bulldog nose.

During-Pascha [8] observed that in approximately 40 per cent of all cases of tertiary syphilis with destructive tendencies the disease affected the hard palate and the nose.

Butler [9] would classify such cases as are here reported as cases of gangosa due to syphilis. He stated the belief that gangosa is always due to syphilis and hence concluded that syphilis is a very old disease.

Gangosa means muffled voice or, as Church described it, voice with a nasal sound. Butler mentioned a personal communication from Captain Holcomb to the effect that the word gangosa is used in the sense here given by the oldest Spanish dictionary accessible to him, the Dictionary of the Royal Academy of Madrid, 1726-1739.

We have had the opportunity of observing a case of syphilis of the center of the face, or gangosa, as Butler would call it, for many years. Because of the unique character of the condition, it was felt that the case was worthy of being recorded.

REPORT OF A CASE

G. W., a man aged 31, had an extensive deforming scar of the face. He had been blind for twenty years.

The patient was the first-born child of a woman who subsequently had seven miscarriages. His father died of "stomach trouble" at the age of 38, when the patient was 16 months of age. His mother married a second time, giving birth to another child, who lived. This half-brother was born in 1912, and laboratory data

6. Suzor, R.: Bericht aus Tananariva, J. d. mal. cutan. et syph. **6**:65-73, 1894; abstracted, Monatsh. f. prakt. Dermat. **19**:35-36, 1894.

7. Ledermann, R.: Tertiäre kongenitale Syphilis der Schleimhaut, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1927, vol. 19, p. 87.

8. During-Pascha, E.: Studien über endemische und hereditäre Syphilis, Arch. f. Dermat. u. Syph. **61**:1-32 and 357-400, 1902.

9. Butler, C. S.: Syphilis Sive Morbus Humanis, Brooklyn, N. Y., The Author, 1936.

and history referable to him are not available. The mother, who was syphilitic, died in 1923 at the age of 46. She had chronic alcoholism and did everything possible to keep her child from seeing physicians.

The past history reveals several admissions to the hospital. On May 14, 1912, when the patient was less than 4 years old, it was noted in the department of ophthalmology of the old Lakeside Hospital that the left eye had been sore for two weeks and was cloudy. Several weeks later a roentgenogram of the right radius and ulna was interpreted as showing signs of syphilis. The mother noticed that when she rubbed the child's right wrist during his bath he cried and that the wrist had been swelling for two weeks. Mercury ointment was prescribed, and its use was continued, as the mother saw fit, for about two months.

At the age of 4½ years "sores about the nostrils" were noted and sporadic rubs with mercury ointment were administered for about eight months. There was a notation in the history on June 13, 1914 that the nose was much better (fig. 1).

The patient was next seen at Cleveland City Hospital after a long lapse of time and was hospitalized from July 18, 1917 to April 16, 1918. The complaint at that

Fig. 1.—Patient at the age of 6 years with tertiary ulceration involving the cheeks and alae of the nose.

time was of recurrence of the "sore nose," which had begun the previous fall with a small pimple on the left side of the septum near the mucocutaneous junction. The lesions had progressed in size and become dark red. There was a gradual loss of tissue until the entire septum was sloughed out. About January 1917 the patient noticed an opening in the roof of his mouth and called the attention of his mother to this.

Examination at entrance revealed that the nasal septum was gone. There was an extensive erosion on the left side, 2 cm. from the tip upward and extending 3 cm. out on the cheek and 0.5 cm. below the nose on the upper lip. This erosion was serpiginous in its configuration. The right side of the nose was absent, and the right side of the cheek was covered with dark red nodules. The teeth were carious and irregular, and the upper left central incisor was typically hutchinsonian in character. There was an opening in the hard plate, 0.5 by 3 cm., with smooth, slightly rolled edges. The heart and reflexes were normal, and there was generalized superficial lymphadenopathy. Examination of the cerebrospinal fluid on Aug. 15, 1917 showed clear fluid, no protein, 5 cells per cubic millimeter and a negative Noguchi reaction. Treatment consisted of mild mercurous chloride inunctions (then recommended by Schamberg), potassium iodide given by mouth and arsphenamine administered intravenously.

The patient later returned to Lakeside Hospital, where it was noted on May 18, 1918 that the nose was completely destroyed. A few inunctions with mercury ointment were given, a small amount of mercury with chalk was used, and the boy was again lost from observation.

After a lapse of four and one-half years the patient was again admitted to Cleveland City Hospital, at the age of 14. At this time the entire center of the face had been eroded (fig. 2). The nose, the soft palate, most of the hard palate, the orbits and the lower part of the forehead were involved by a weeping granulomatous process. The eyeballs could be palpated under the ulcerating tissue.

The liver was palpable 3 fingerbreadths below the right costal margin, and the spleen was slightly enlarged. In July 1924 swelling and tenderness of the left ankle and heel developed, and roentgenograms revealed destruction of the os calcis.

During this admission, tests of the urine showed an occasional slight reaction for albumin, the hemogram showed moderate secondary anemia and the Wassermann

Fig. 2.—Patient with congenital syphilis at the age of 14, showing extensive serpiginous ulceration of the center of the face.

reaction of the blood was negative on four occasions. Treatment consisted of potassium iodide, a few rubs with mercury ointment, many injections of various trivalent arsenical preparations and intramuscular injections of mercuric salicylate and bismuth subsalicylate.

After this the patient remained a ward of the county and without treatment until Jan. 12, 1940, at which time he was admitted to Cleveland City Hospital for further observation.

The entire center of the face, including the superior and inferior orbital rims, the nose and the upper lip, was replaced and overgrown by a pliable but firm scar. The atrophied eyeballs were covered with thick scar tissue. There was a single opening through which the patient ate, talked and breathed. This opening was higher than the mouth had been, but the lower lip had grown upward in an attempt to cover the defect until it was at the level at which the nostrils would ordinarily be situated (fig. 3 *a*). The tongue appeared normal, and two teeth were visible in the common opening (fig. 3 *B*).

The voice was muffled (gangosa). Hearing was diminished in the left ear and was practically absent in the right ear. The reflexes were hyperactive throughout, and a positive Babinski sign could be elicited on the left side. Roentgenograms of the legs on January 13 showed no evidence of syphilitic periostitis. Roentgenograms of the skull showed the nasal bones to be absent and the anterior portions of the maxillas to end bluntly. No evidence of a syphilitic osteitis of the skull was seen. The hard palate was absent. Some unerupted teeth were visualized in the lower jaw.

The hemogram was normal. Serologic tests showed the Wassermann reaction to be strongly positive, while the Kline diagnostic and exclusion tests gave negative results. A lumbar puncture was not permitted.

Laboratory examinations which were permitted were performed. Photographs were taken, and a prosthesis was constructed by the dental department to replace the nose.

Fig. 3.—Late result of syphilis of the center of the face (patient 31 years old).

COMMENT

This patient is an unfortunate victim of circumstances. If it had been possible to treat him regularly, it is likely that this tragedy could have been averted. The drunken mother did not believe in medical care; so she would prevent the child from attending the clinics for months at a time. Then he would be found and given a few treatments, only to be absent again for a long time.

Surprisingly, his insight is very good. He enjoys life and likes to talk and to listen to the radio. He reads braille, takes hikes around the grounds of the institution where he is confined and, when one considers the entire situation, is well informed and intelligent.

From the medical point of view it is hoped this report will forcibly call the attention of syphilologists and of roentgenologists to syphilis of the center of the face.

SKIN RESPIRATION AS A DERMATOLOGIC TOOL

JOSEPH C. AMERSBACH, M.D.
Attending Dermatologist, Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital
NEW YORK
AND
LEO G. NUTINI, M.D.
AND
ELTON S. COOK, PH.D.
CINCINNATI

In dermatology there is need for a quantitative criterion of the physiologic condition of the skin. Much dermatologic diagnosis depends on close observation and, in the last analysis, on the experience and judgment of the physician. It would be desirable to supplement this procedure by a more objective method by which variations in cutaneous vitality could be measured. It has been suggested by Adams [1] and by Cook [2] that the respiration of skin may be such a criterion. It is the object of this and succeeding papers to discuss the measurement of the respiration of human skin, its variation with different physiologic conditions and the effect of various toxic agents on it.

There is already a background of experimental data relating various pathologic conditions and the action of toxic agents on the respiration of skin. For example, Kadisch [3] has shown a relation between the localization of infections, the temperature and the supply of oxygen to the skin. Specific studies have dealt with cancer, vitamin deficiencies and toxic agents (antiseptics, anesthetics, fatty acids and p_H). In most cases the complete relation between these factors and tissue respiration has not been worked out. Most of these studies have employed animal tissues. Some of the data are outlined in the following paragraphs.

Cancer.—It is well known from the work of Warburg [4] and many others that tumor tissues possess a defective respiratory mechanism as

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From the Institutum Divi Thomae.

1. Adams, P. D.: Effect of Age on Consumption of Oxygen and Composition of the Skin of the Albino Rat, Arch. Dermat. & Syph. **36**:606-610 (Sept.) 1936.

2. Cook, E. S.: Skin Health and Respiration, Chem. Products **1**:65-67 (Jan.) 1939; **2**:89-92 (Aug.) 1939.

3. Kadisch, E.: Der Einfluss von Temperatur und Sauerstoff auf die Lokalisation der Infektionen, Arch. f. Dermat. u. Syph. **168**:438-476, 1933.

4. Warburg, O.: The Metabolism of Tumours, London, Constable & Co., Ltd., 1930.

compared with normal tissues. Indeed, Warburg has gone so far as to state: "Interference with the respiration in growing cells is, from the standpoint of the physiology of metabolism, the cause of tumours." While the original concept has undergone such modification that the simple measurement of respiration alone is an insufficient basis for the characterization of tumor tissues, yet it appears that in general cancer manifests a faulty aerobic carbohydrate metabolism.[5] It has been found that agents capable of inducing cancer, such as carcinogenic hydrocarbons[6] and roentgen rays,[7] may adversely affect the respiration, although dosage and time elapsing after treatment are important factors. Studies are in progress in our laboratories to relate these phenomena to problems of tumor induction and tumor resistance.

Vitamin Deficiencies.—Several papers have reported a relation between vitamin deficiencies and tissue respiration. Thus, Sure and De Witt[8] have reported that animals receiving vitamin-deficient diets show lowered respiration of several tissues, but it was not possible to relate the degree of deficiency with the amount of respiratory lowering. Presnell[9] has found that rats fed a vitamin D–deficient diet showed a 30 to 40 per cent lowering in skin respiration. These effects do not appear to be specific but are perhaps part of the general deficiency complex, although the cutaneous symptoms of vitamin A deficiency have been linked with a reduction of cellular oxidation processes.[10] Adams[11]

5. Dickens, F.: Metabolism of Tumours, Nature, London **145**:512 (March 30) 1940. Dickens, F., and Weil-Malherbe, H.: Carbohydrate Metabolism of Tumours, ibid. **145**:779 (May 18) 1940.

6. Cook, E. S.; Hart, Sister Mary Jane, and Joly, R. A.: The Effect of 1, 2, 5, 6-Dibenzanthracene on the Growth and Respiration of Yeast, Science **87**:331 (April 8) 1938; Am. J. Cancer **35**:543-545 (April) 1939. Pourbaix, Y.: Etude de l'influence du 1-2, 5-6, dibènzene anthracène sur le métabolisme cellulaire des hydrates de carbone, Compt. rend. Soc. de biol. **110**:1015-1018, 1932; Etude de l'influence d'un corps cancérigène, le 1-2,5-6 dibenzène anthracène, sur la respiration de la cellule normale, ibid. **112**:1222-1225, 1933; Respiration des coupes de cerveau in vitro en présence d'un corps pur cancérigène, le 1-2,5-6 dibenzène anthracéne, ibid. **113**:930-933, 1933; Sur le métabolisme cellulaire des hydrates de carbone, ibid. **115**:1738-1739, 1934. Fardon, J. D.; Brotzge, G. C., and Loeffler, Sister M. Kenneth: Unpublished data.

7. Fardon, J. C., and Sullivan, W. A.: Respiration Changes Following Irradiation with X-Rays, Nature, London **143**:287 (Feb. 18) 1939. Fardon, J. C.; Sullivan, W. A.; Brotzge, G. C.; Loeffler, Sister M. Kenneth, and Andrus, Sister Mary Basilia: Changes in Respiration Following Irradiation with X-Rays, Studies Inst. Div. Thom. **2**:203-214 (Nov.) 1939.

8. Sure, B., and De Witt, J. B.: The Oxygen Uptake of Tissues in Vitamin Deficiencies, J. Biol. Chem. **126**:287-298 (Nov.) 1938.

9. Presnell, A. K.: The Relation of Vitamin D to Skin Respiration, J. Biol. Chem. **121**:5-8 (Oct.) 1937.

10. Bommer, S.: Haut und Vitamine, Deutsche med. Wchnschr. **60**:570 (April 13) 1934.

11. Adams, P. D.: The Oxygen Uptake and Composition of the Skin of Rats in Vitamin G Deficiency, J. Biol. Chem. **116**:641-651 (Dec.) 1936.

has demonstrated a decline in the respiration of the skin amounting to about 25 per cent in rats fed a diet deficient in vitamin G (B_2). The work of Peters and his associates [12] proving the necessity of vitamin B_1 for brain respiration is well known. Recent information showing the actual part played by various members of the vitamin B complex in the enzymatic cellular oxidation systems demonstrates that these vitamins exert a specific as well as a possible general effect on tissue respiration. The studies which Hastings and co-workers have recently begun are of interest in this connection.[13] The oxidation-reduction reactions of which vitamin C is capable have suggested that this substance in conjunction with glutathione may play an important part in tissue respiration.[14] However, no change was found in the respiration of the kidney cortex of scorbutic guinea pigs, while the liver of scorbutic guinea pigs showed an increase in the rate of oxygen consumption. The apparent increase in respiration of both of these tissues by the in vitro addition of vitamin C is caused merely by the oxidation of the vitamin itself. Thus, this vitamin possibly does not exert a direct influence on tissue respiration.[15]

Toxic Agents.—Preservatives and antiseptics depress tissue respiration, as might be expected. It may be suggested that at least a part of the efficacy of antiseptics depends on the differential depression of the respiration of the tissue and of the pathogenic organism. Therefore, a manometric method has been suggested for the evaluation of germicides.[16]

12. Kinnersley, H. W., and Peters, R. A.: Observations upon Carbohydrate Metabolism in Birds, Biochem. J. **23**:1126-1136, 1929. Passmore, R.; Peters, R. A., and Sinclair, H. M.: On Catatorulin: A New Method of Comparing the Oxidative Factor in Vitamin B_1 Concentrates, ibid. **27**:842-850, 1933. Peters, R. A.; Rydin, H., and Thompson, R. H. S.: Brain Respiration, a Chain of Reactions, as Revealed by Experiments upon the Catatorulin Effect, ibid. **29**:53-62, 1935. O'Brien, J. R., and Peters, R. A.: Vitamin B_1 Deficiency in the Rat Brain, J. Physiol. **85**:454-463, 1935. Banga, I.; Ochoa, S., and Peters, R. A.: Pyruvate Oxidation in Brain: VI. The Active Form of Vitamin B_1 and the Role of C_4 Dicarboxylic Acids, Biochem. J. **33**:1109-1121 (July) 1939.

13. Hastings, A. B.; Muus, J., and Bessey, O. A.: Tissue Metabolism in Vitamin Deficiencies: I. Effect of Deficiencies in Riboflavin and Other Heat-Stable Vitamin B Components, J. Biol. Chem. **129**:295-301 (July) 1939. Muus, J.; Weiss, S., and Hastings, A. B.: Tissue Metabolism in Vitamin Deficiencies: II. Effect of Thiamine Deficiency, ibid. **129**:303-307 (July) 1939.

14. Borsook, H.; Davenport, H. W.; Jeffreys, C. E. P., and Warner, R. C.: The Oxidation of Ascorbic Acid and Its Reduction in Vitro and in Vivo, J. Biol. Chem. **117**:237-279 (Jan.) 1937.

15. Stotz, E.; Harrer, G. J.; Schultze, M. O., and King, C. G.: Tissue Respiration Studies on Normal and Scorbutic Guinea Pig Liver and Kidney, J. Biol. Chem. **120**:129-140 (Aug.) 1937.

16. Bronfenbrenner, J.; Hershey, A. D., and Doubly, J. A.: Evaluation of Germicides by a Manometric Method, Proc. Soc. Exper. Biol. & Med. **38**:210-212 (March) 1938; J. Bact. **37**:583-597 (June) 1939. Ely, J. O.: The Evaluation of Germicides by a Manometric Method, ibid. **38**:391-400 (Oct.) 1939.

The effects of antiseptics on the respiration of the skin are under investigation in our laboratories. Anesthetics likewise depress respiratory processes, and several theories of anesthesia are based on this fact.[17] Alteration of the p_H from the normal value is reflected in lowered tissue respiration.[18] Fatty acids also depress the respiration of rat skin,[19] as well as the respiration of brain.[20]

These examples suggest a few of the instances in which depression of tissue respiration, and particularly of skin respiration, have been studied in connection with abnormal conditions in animals. We shall now describe and illustrate procedures suitable for use with human skin. Future papers will deal with the application of the method to specific dermatologic problems.

EXPERIMENTAL METHODS AND RESULTS

Respiration is measured by the direct Warburg method. With this method the actual oxygen uptake of pieces of excised tissue is measured by means of a micromanometer. Details of the theory and practice of manometric methods may be found in Warburg's book [4] or in the excellent manual of Dixon.[21] In our experiments a bank of seven manometers was used. These were shaken for two hours at 37.5 C. One manometer served as a thermobarometric control, and the others were available for experimental use. The method as applied to the skin of laboratory animals has been published in detail.[22]

Human experiments were conducted as follows:

After the skin was cleansed with alcohol, a portion 0.75 to 1 cm. in diameter was removed by a biopsy punch under procaine hydrochloride anesthesia. It is important to avoid as much connective and adipose tissue as possible. The skin

17. Henderson, V. E.: The Present Status of the Theories of Narcosis, Physiol. Rev. **10**:171-220 (April) 1930.

18. Kisch, B.: Das p_H-Optimum der Atmungsgrösse verschiedener Gewebe, Biochem. Ztschr. **253**:377-378, 1932. Tarantino, C.: Oxygen Consumption of Tissues as a Function of Hydrogen Ion Concentration of the Media, Riv. di biol. **23**:281-290, 1937. Ruddy, Sister Mary Veronita: Unpublished data.

19. Cook, E. S., and Kreke, C. W.: Fatty Acids from Yeast as Respiratory Factors, Nature, London **142**:719 (Oct. 15) 1938; A Note on a Solid from Yeast Which Affects Cellular Metabolism, Studies Inst. Div. Thom. **2**:47-49 (Nov.) 1938; Respiratory Activity of a Steam Distillate from Yeast, ibid. **2**:215-225 (Nov.) 1939. Cook, E. S., and Morgan, Sister Mary Norbert: The Effect of Some Saturated Fatty Acids on the Respiration of Baker's Yeast, Biochem. J. **34**:15-20 (Jan.) 1940.

20. Peters, R. A., and Wakelin, R. W.: The Dissociating Power of Salts of Fatty Acids, Biochem. J. **32**:2290-2295 (Dec.) 1938.

21. Dixon, M.: Manometric Methods, London, Cambridge University Press, 1934.

22. Cook, E. S.; Kreke, C. W., and Nutini, L. G.: Fractions from Yeast Which Stimulate the Respiration of Yeast and Animal Tissues, Studies Inst. Div. Thom. **2**:23-37 (Nov.) 1938.

was immediately placed in Ringer-phosphate-dextrose solution (0.2 per cent dextrose, p_H 7.3) at 37.5 c., and all possible fat was removed. The skin was cut into pieces about 1 mm. square, and approximately 2 to 3 mg. (dry weight) of skin was put in each of six manometer flasks. All flasks contained 0.2 cc. of normal potassium hydroxide solution in the inner well and 2.1 cc. of Ringer-phosphate dextrose solution in the outer well. An average of thirty minutes elapsed between the removal of the skin and the placing of it in the flasks. After an equilibrium period of fifteen minutes the manometers were shaken at a rate of 120 oscillations per minute for a two hour respiration period at 37.5 C. At the end of this time readings were taken and the fragments of tissue were removed, rinsed in distilled water and placed in weighed crucibles. Dry weights of the tissue samples were obtained by drying overnight in an oven at 110 C. The oxygen uptake was calculated in cubic millimeters per milligram of tissue (dry) per hour; this value is the QO_2.

The variation in the respiration of the skin of normal persons is illustrated in the following set of values. These determinations refer to skin taken from a position about 6 inches (15 cm.) below the axilla in the midaxillary line, the subjects all being white women between 20 and 30 years of age. The respective QO_2 values were: 2.02, 2.24, 1.16, 0.87, 1.99, 1.26, 1.07, 1.21, 2.36, 1.26, 2.08, 0.63, 1.13, 1.21, 2.34, 1.28 and 1.13; average QO_2 = 1.48 plus-minus 0.48. It is evident that within the age limits chosen a considerable individual variation occurs. In the seventeen experiments a variation of from 0.63 to 2.36 was found.

Wohlgemuth and Klopstock [23] determined the oxygen consumption of fresh human skin obtained at operations from 10 persons. The subjects were both men and women and varied in age from 22 to 67. These investigators found an average QO_2 of 2.1, varying between 1.0 and 3.6. From work with animals it is well known that there is considerable variation from subject to subject, that there is possible variation with sex [22] and that there is variation with age, that is, the older the animal, within limits, the lower the respiration of its skin (according to Adams [1] and from unpublished experiments in our laboratories). The respiration of skin from different areas of the same animal varies according to the site from which the skin is taken. This is due in part to variation in the amounts of connective and adipose tissue present. Another source of variation lies in certain experimental difficulties. For example, the amount of skin available from human beings is usually smaller than that obtained in animal experiments. In the determinations reported in this paper only 2 to 3 mg. (dry weight) of tissue was used per flask; for animal experiments we customarily used about ten times this amount. Obviously the percentage of error is increased in the human experiments. Furthermore, if the human skin receives extensive antiseptic and anesthetic treatments prior to excision, the respiration may be depressed, as

23. Wohlgemuth, J., and Klopstock, E.: Die Fermente der Haut: V. Atmung und Glycolyse der Haut und ihre Beeinflussung durch Hormone, Biochem. Ztschr. **175**:202-215, 1926.

previously mentioned. It is therefore essential to maintain the same technic throughout a series of experiments. We have made a few determinations in which anesthesia was omitted, but this procedure is usually undesirable.

Because of the aforementioned facts it is apparent that a large number of determinations would have to be carried out to establish a "normal" base line for comparisons between different groups of persons. However, this laborious and time-consuming set of preliminary studies is unnecessary for the investigation of the action of toxic agents or for the investigation of similar problems in which skin from the same subject can be used as a control. In such experiments one portion of skin can be subjected to a certain treatment while a similar area of skin from the same person is protected. This procedure will also be satisfactory for the study of lesions as compared with normal tissue. By this method many individual variations can be ruled out and more trustworthy results can be obtained, as has been demonstrated by animal experimentation.

EFFECT OF COSMETICS ON SKIN RESPIRATION

The methods discussed may be illustrated by reference to experiments carried out by us on the effects of cosmetics (creams and lotions) on the respiration of the skin of human beings and rats. Two procedures have been followed in these studies: (1) in vitro experiments, in which the substance tested was added to the fragments of skin in the manometer flask, and (2) topical application experiments, in which the cosmetic was applied to the skin for five minutes, any excess of cosmetic being removed before excision of the skin. Both types of experiments were controlled with normal untreated skin from the same subject, and with the topical application method the control skin was rubbed for the same length of time as the experimental skin to eliminate temporary stimulation due to massage. While the first method reveals acute toxic manifestations, it is evident that the second method more nearly reproduces the conditions found in practice. Depression of the respiration was encountered by both methods. These experiments were carried out on both rat skin and human skin, with similar results. Typical experimental results are shown in the table. The human subjects were the white women between 20 and 30 years of age who furnished the normal values previously discussed. Skin taken from the midaxillary line on the trunk was employed, as before. Abdominal skin of 1 year old female albino rats was used, as previously described.[22]

These experiments, typical of others which we have performed, indicate that under the conditions described the lotions and creams studied depress the respiration of the skin of animals and of human beings. Soaps, as might be expected, also exhibit this depressant action. These effects are undoubtedly due to a diversity of causes, among them the

physical "covering" action on the skin and, more importantly, the previously demonstrated adverse effects of antiseptics, fatty acids and unphysiologic p_H.

The study of toxic agents is being continued, particularly in the Cincinnati laboratories. At the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital attention at present is being directed primarily to the use of the respiratory technic in the study of precancerous lesions and of the effects produced by roentgen rays on the skin. The principal objective of these investigations is the development of a diagnostic method.

Results of Two Hour Experiments on the Respiration of Human and Animal Skin

Experiment	Dry Weight of Skin, Gm.	Total Oxygen Consumed, Cu. Mm.	Average QO_2	Per Cent of Decrease in Respiration
Rat skin				
Control	0.0205	23.27	0.57	
Experiment (in vitro): 2.1 cc. Ringer solution and 1 cc. of lotion in flask...	0.0251	6.67	0.13	77
Rat skin				
Control	0.0251	47.19	0.94	
Experiment (topical): rubbed with 0.2 cc. of lotion	0.0229	24.73	0.54	47
Human skin				
Control	0.0015	7.02	2.34	
Experiment (in vitro): 0.05 cc. of lotion and 3.05 cc. of Ringer solution in flask	0.0016	2.96	0.62	74
Human skin				
Control	0.0025	6.31	1.26	
Experiment (topical): rubbed with 0.1 cc. of lotion and 0.9 cc. of Ringer solution	0.0019	1.89	0.49	61
Rat skin				
Control	0.0138	22.39	0.81	
Experiment (topical): rubbed with cream three minutes	0.0132	16.73	0.63	24
Human skin				
Control	0.0017	3.83	1.13	
Experiment (in vitro): 3.1 cc. of Ringer solution and 10 mg. of cream	0.0014	1.48	0.53	53

SUMMARY

Attention has been directed to the measurement of the respiration of the skin by the Warburg method as a dermatologic tool.

The background for this suggestion is outlined in terms of our present information with regard to tumors, vitamin deficiencies and toxic agents.

The experimental technics for use with human skin are described and discussed.

The method is illustrated by experiments on the effects of lotions and creams on animal skin and on human skin. These cosmetics are shown to depress the respiration under the conditions of study.

The method is being used for the study of other problems, in particular those of precancerous lesions and of the effects of roentgen rays on the skin.

BACTERIAL ALLERGY: AN ETIOLOGIC FACTOR IN DERMATITIS HERPETIFORMIS

J. LAMAR CALLAWAY, M.D.
DURHAM, N. C.
AND
THOMAS H. STERNBERG, M.D.
PEORIA, ILL.

Many theories have been advanced as to the cause of dermatitis herpetiformis and the relation between pemphigus vulgaris and dermatitis herpetiformis, since many so-called transition cases have been described. Dostrovsky, Gurevitch and Ungar [1] have recently summarized the various theories advanced by Urbach and his co-workers,[2] Welsh and O'Leary,[3] Bernhardt [4] and others and have divided their reports into four main classes, dealing with infectious, toxic, virus (neurotropic) and endocrine causation. There is considerable evidence to support each of these theories, but none completely explains the various characteristics of the disease. Urbach and his associates,[2] by inoculating rabbits with material obtained from patients with dermatitis herpetiformis and with pemphigus vulgaris, have produced experimentally a similar clinical and histologic picture. Immunologic investigations indicated a cross immunity between the virus of pemphigus and that of dermatitis herpetiformis, and it is these authors' conclusion that symptoms of pemphigus vulgaris and dermatitis herpetiformis are caused by one and the same virus. Welsh and O'Leary [3] have isolated a streptococcus from patients with pemphigus

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From the Department of Dermatology and Syphilology of the University of Pennsylvania School of Medicine, John H. Stokes, M.D., Director.

1. Dostrovsky, A.; Gurevitch, I., and Ungar, H.: On the Question of the Aetiology of Pemphigus Vulgaris and Dermatitis Herpetiformis: A Clinical Study, Brit. J. Dermat. **50**:412 (Aug.) 1938.

2. Urbach, E., and Wolfram, S.: Virus of Pemphigus and Dermatitis Herpetiformis, Arch. Dermat. & Syph. **33**:788 (May) 1936. Urbach, E., and Reiss, F.: Tierexperimentelle Untersuchungen zur Frage der infektiöstoxischen Genese der Pemphigus vulgaris und der Dermatitis herpetiformis Duhring, Arch. f. Dermat. u. Syph. **162**:713, 1931. Urbach, E.; Wolfram, S., and Brandt, R.: Zur Serodiagnose des Pemphigus, Klin. Wchnschr. **15**:1479 (Oct. 10) 1936.

3. Welsh, A. L., and O'Leary, P. A.: Studies on Specificity of a Streptococcus Isolated from Patients with Pemphigus, Proc. Staff Meet., Mayo Clin. **9**:369 (June 20) 1934. Welsh, A. L.: Specificity of Streptococcus Isolated from Patients with Pemphigus: Preliminary Report, Arch. Dermat. & Syph. **30**:611 (Nov.) 1934.

4. Bernhardt, R.: Weitere Beiträge zur Aetiologie des Pemphigus und der Duhringschen Krankheit, Arch. f. Dermat. u. Syph. **171**:536, 1935.

which they think is specific. As a diagnostic test, they showed characteristic cataphoric mobility distribution curves using serum from patients with pemphigus and with dermatitis herpetiformis expressed in per cent under the average mobility distribution in saline solution and observed similar reactions with the two conditions. Dostrovsky, Gurevitch and Ungar,[1] in studying patients with dermatitis herpetiformis and with pemphigus vulgaris, found a certain specific virus present in the material they used, but they pointed out the possibility that it was only an accompanying virus and was not necessarily the true cause of pemphigus vulgaris or of dermatitis herpetiformis. Bernhardt [4] expressed the belief that dermatitis herpetiformis is a sensitization complex and that it actually belongs in the group of exudative multiform erythemas. He pointed out again the sensitivity to halogens, to staphylococcus vaccine, to streptococcus vaccine and to trichophytin. A complete symposium on the final outcome of Duhring's disease and the relations between pemphigus and dermatitis herpetiformis has been given by Arzt and his collaborators [5] and by Grouven and his associates.[6] We believe, as many other observers do, including notably Darier and Tzanck [7] and Wise and Sulzberger,[8] that Duhring's disease and pemphigus are different processes. Leone [9] isolated a streptococcus which when injected intradermally produced bullae in the skin, but he felt that this result was analogous to the Kőbner reaction and concluded that the streptococcus was a contamination and played no part in the causation of the disease. Pillsbury [10] has isolated hemolytic streptococci and Staphylococcus aureus from unruptured vesicles, but intradermal tests for the recovered organisms gave only slightly positive reactions. Peck [11] observed 2 patients who were unusually sensitive to staphylococcus toxoid (Lederle), and the use of staphylococcus toxoid in small doses together with thyroid cleared the lesions in both cases.

Dermatitis herpetiformis has been classified by Darier and Tzanck as a hypersensitivity reaction characterized by the following features:

5. Arzt, L., and others: Welches ist der schliessliche Ausgang der Duhringschen Krankheit? Dermat. Wchnschr. **100**:21 (Jan. 5); 184 (Feb. 9) 1935.

6. Grouven, C., and others: Sind Pemphigus und Duhring Krankheiten sui generis oder gibt es gleitende Uebergänge? Dermat. Wchnschr. **99**:1084 (Aug. 18) 1934.

7. Darier, J., and Tzanck, A.: Pemphigus und Dermatitis Duhring und die sogenannten Uebergangsfälle, Dermat. Wchnschr. **100**:73 (Jan. 19) 1935.

8. Wise, F., and Sulzberger, M. B.: Editorial, in Year Book of Dermatology and Syphilology, Chicago, The Year Book Publishers, Inc., 1935, p. 210.

9. Leone, R.: Dermatite erpetiforme e streptococco, Gior. ital. di dermat. e sif. **79**:365 (April) 1938.

10. Pillsbury, D. M.: Dermatitis Herpetiformis: Report of a Case, Arch. Dermat. & Syph. **38**:985 (Dec.) 1938.

11. Peck, S. M., in discussion on Sayer and Kampf, Arch. Dermat. & Syph. **38**:673 (Oct.) 1938.

polymorphism of the cutaneous phenomena, the congestive picture, the eruption in crises, the maintenance of a good general condition, the usual spontaneous healing, eosinophilia, pruritus and sensitivity to halogens.

After reviewing the recent contributions in the literature, we thought it justifiable to report a case of dermatitis herpetiformis in which cutaneous manifestations were apparently due to sensitivity of the skin to an organism responsible for a mild bronchiectasis and in which desensitization therapy with a specific vaccine was instrumental in obtaining a complete relief of cutaneous symptoms.

REPORT OF A CASE

J. F. O., a 41 year old milk deliverer, was first seen in the clinic of cutaneous medicine, University of Pennsylvania Hospital, on Sept. 3, 1935, complaining of an extremely pruritic, vesicular and bullous eruption of six years' duration. The onset of the eruption was sudden and widespread and was unaccompanied by any systemic disturbance. The patient sought medical advice from the outset and was studied in various dermatologic clinics, at no time receiving complete or lasting relief. For the year previous to our seeing him he had been taking solution of potassium arsenite U. S. P. in doses varying from 3 to 20 drops three times daily, which gave him partial objective and subjective relief. The family history was irrelevant to the present complaint. The patient's general health had been good through the whole course of the disease. The only symptom of possible significance was a mild but persistent cough of seven years' duration.

Physical examination revealed a well developed white man who was continuously scratching his skin. There was much dental caries with numerous cavities, a moderate retraction of the gums and mild gingivitis. The tonsils were moderately injected. On the skin there were generalized groups of vesicular and bullous lesions excepting only the scalp, palms, soles and mucous membranes. The eruption was most severe over the abdomen, back and inner sides of the thighs. Many of the vesicles and bullae were tense and filled with a slightly turbid fluid; others were ruptured and covered with crusts. In many areas there was confluence of the lesions resulting in solid weeping and crusting. A number of the lesions had an inflammatory base. Excoriations were prominent. Pigmentation of old lesions was marked. Nikolsky's sign could not be elicited. The palms were covered with multiple discrete keratoses.

The diagnosis of dermatitis herpetiformis in this case would seem to be definitely established, as the patient was presented on several occasions before the Philadelphia Dermatological Society and in each instance there was complete agreement as to the nature of the disease.

Treatment in the outpatient department consisted of autohemotherapy, calcium gluconate intravenously and chromium sulfate, 0.2 Gm. three times daily, by mouth. With this regimen he became progressively worse and had to be admitted to the hospital. In the hospital he was given sulfurated potash baths, from which he obtained much relief from the pruritus but no improvement in the eruption. An increase in the pruritus and the rapid appearance of new vesicles and bullae followed the intravenous administration of 1 Gm. of sodium bromide.

Examination of the blood showed 90 per cent hemoglobin, 4,800,000 red blood cells and 9,200 white blood cells, with a differential count of 72 per cent polymorphonuclear leukocytes, 11 per cent eosinophils, 2 per cent monocytes, 8 per cent

large lymphocytes and 6 per cent small lymphocytes. The Wassermann and Kahn reactions of the blood were negative. Three blood cultures were negative. The sedimentation rate of the blood was 18 mm. per hour corrected. The phytopharmacologic index,[12] determined by Dr. I. R. Pels, of Johns Hopkins University School of Medicine, was 72 per cent (normal reading). A nonhemolytic streptococcus was isolated from a stool culture. On two separate occasions a pure culture of hemolytic Staph. aureus was grown from fluid aspirated from unruptured bullae. A hemolytic streptococcus was cultured from an unruptured pustule. A roentgenogram of the teeth showed several to be diseased. A roentgenogram of the sinuses revealed no abnormalities. The tonsils were found to be chronically infected, but no predominant organism was obtained from cultural studies. Intracutaneous tests with over one hundred of the more common antigens, including foods and house dust, resulted in a positive reaction to cheese only. These tests were carried out in the allergy clinic of the University of Pennsylvania. Patch tests with 20 per cent and 50 per cent solutions of potassium iodide resulted in an erythematous reaction with the former and a giant bullous reaction with the latter. Removal of the teeth and tonsils produced severe flare-ups in the cutaneous condition.

In view of the multiple bacterial sensitivity to the two organisms cultivated from unruptured cutaneous lesions, it was decided to attempt desensitization with a mixed vaccine containing the killed hemolytic streptococcus and the hemolytic Staph. aureus. On this regimen the patient showed a moderate improvement, and at the time of discharge, on October 1, his skin was clear except for a few lesions on the elbows and buttocks. One week later he returned to the clinic with an acute bullous relapse, and at this time Dr. John H. Stokes suggested readmission to the hospital for further investigation, particularly into the nature of his chronic pulmonary involvement.

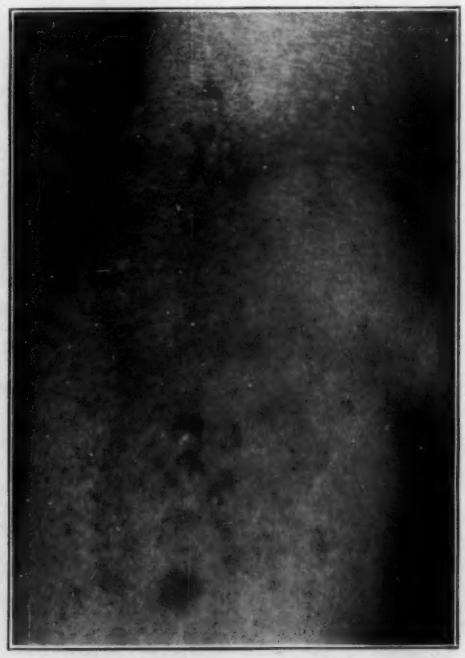
Further studies following his second admission included roentgen examination of the lungs, which revealed exaggerated markings at the bases of both lungs, suggesting a long-standing pulmonary disease. Bronchoscopic examination by Dr. Gabriel Tucker confirmed the diagnosis of a mild chronic bronchiectasis. Several cultures made from the material obtained directly through the bronchoscope resulted in a pure growth of pneumococcus type VII in each instance. Intradermal and patch tests using 0.1 cc. (approximately 100,000 organisms) of a vaccine made from a culture of this organism resulted in areas of erythema and edema fully 7 cm. in diameter with several bullae in the central portion. Intradermal tests and patch tests of normal control patients gave negative results with both the vaccine and the broth.

The patient's response to desensitization therapy with this vaccine was immediate, but after six weeks resolution was not complete and the method of administering the vaccine was changed from subcutaneous and intracutaneous to intravenous, as described by Ayres and Anderson.[13] For the first time in six years he was entirely free of lesions. Desensitization with the vaccine was performed on alternate days starting with 0.1 cc. subcutaneously (approximately 100,000 organisms) and increasing 0.1 cc. per dose until a maintenance dose of 1 cc. (1,000,000 organisms) was reached. The same dose and frequency were used with the intravenous desensitization. When the dose exceeded 1 cc. (approximately 1,000,000 organ-

12. Pels, I. R., and Macht, D. I.: Phytopharmacologic Examination of the Blood in Pemphigus and in Some Other Diseases of the Skin, Arch. Dermat. & Syph. **19**:640 (April) 1929.

13. Ayres, S., Jr., and Anderson, N. P.: Focal Infections in Dermatology, Arch. Dermat. & Syph. **34**:421 (Sept.) 1936.

isms) the patient suffered a relapse. Thirty-six months after institution of therapy with pneumococcus vaccine the patient was entirely free of any cutaneuos lesions with the exception of two or three mild recurrences, which we believe were due to the improper dosage of the vaccine and which responded promptly to a correction of these faults. On one occasion new lesions appeared after the administration of a large dose of vaccine. When 2 cc. (approximately 2,000,000 organisms) was given there was an exacerbation of the cutaneous lesions. The skin became normal as soon as the dose was reduced, and an intentional effort to reproduce this observation was successful. On another occasion a lapse in vaccine therapy by the patient resulted in a mild recurrence, which cleared promptly on the resumption of treatment. The treatment has been deliberately discontinued several times, and each



Patient's arm, showing bullous reaction to intradermal injection of 0.1 cc. (approximately 100,000 organisms) of autogenous vaccine (pneumococcus type VII).

lapse has been followed by a mild recurrence. The tendency to relapse is still present at the time of writing and may be explained by the low grade bronchiectasis, which is likely to resolve under treatment.

COMMENT

Pronounced exacerbation following the administration of sodium bromide intravenously is in conformity with the observations of Jadassohn and others. The majority of patients with this condition are sensitive to the entire halogen group of drugs. The internal administra-

tion of 1 mg. of a halogen may result in a serious or even fatal relapse. The halogen sensitivity in this case is further established by the bullous response to patch tests with a 50 per cent aqueous solution of potassium iodide. In addition to the halogen sensitivity, there is also a sensitivity to numerous bacterial allergens, as is shown in this case by the results of both intracutaneous and patch tests. It is also of interest that exacerbations followed both tonsillectomy and bronchoscopy, but these operations did not result in clinical improvement. Sensitization to both the halogen group of drugs and the bacterial allergens is frequent in cases of dermatitis herpetiformis and suggests an intimate relation between the two phenomena.

A case of dermatitis herpetiformis is reported in which specific bacterial sensitization is possibly chiefly or entirely responsible for the cutaneous aspect of the disease. The patient is reported to have had a pruritus and a vesicular eruption for six years prior to the present studies, and during this time all treatment was unsuccessful. Our studies revealed sensitivity to numerous bacterial allergens, bromides and iodides. Roentgen and bronchoscopic examination of the lungs disclosed a low grade bronchiectasis. A pure culture of pneumococcus type VII was grown from the material obtained through the bronchoscope. The patient exhibited a sensitivity to patch tests and to intracutaneous injections of the vaccine made from the pneumococci. Injections of this vaccine resulted in involution of the cutaneous lesions. Chronic bronchiectasis is still present, which may explain the necessity for continuing small doses of the vaccine. This eruption may be produced at will by either withdrawal or overdosage of the vaccine.

We should like to point out that although we feel our observations are conclusive, they do not disprove the claim that a virus is the cause of dermatitis herpetiformis, for, as has been shown in the recent literature on herpes, it is entirely possible for the virus to be present as a persisting infection, kept active by an allergic or other factor. A study of such features as the agglutinins and precipitins in this patient during the relapse and while under treatment might have thrown much more light on the immunologic aspects of the disease, and it is hoped that if other observers have the opportunity they will study further this aspect of the problem.

DIFFUSE CUTANEOUS METASTATIC LESIONS FROM AN OVARIAN CARCINOMA

ERICH URBACH, M.D.

IRVING WALDOW, M.D.

AND

CAMILLE J. STAMM, M.D.

PHILADELPHIA

Compared with other organs, the skin is an infrequent site of carcinomatous metastasis from the inner organs. Kaufmann-Wolf [1] in 1913 collected 65 cases of this kind, and Bade [2] in 1939 found only 58 additional cases. Beck [3] cited several statistical studies to indicate the rare involvement of the skin by carcinomatous metastasis. According to Willis,[4] primary tumors in the following internal organs, in the order of frequency, may be responsible for distant lesions in the skin and subcutis: stomach, pancreas, kidney, urinary bladder, female genital tract, esophagus, Meckel's diverticulum and thymus.

Metastatic carcinoma may occur on any area of the skin but appears most frequently on the chest, in the axilla, on the abdomen and in the perigenital region (Eller [5]). In many cases the area of the skin affected roughly corresponds in position with the location of the underlying internal tumor. Secondary growths may arise by direct extension from the subjacent neoplasm, by continuous extension by way of the lymphatics, by lymphatic embolism, by hemic embolism or by implantation in the operative scar (Willis [4] and Ewing [6]).

From the Dermatological Service (Dr. Urbach), the Pathological Department (Dr. Steinfield) and the Gynecological Service (Dr. Stamm) of the Jewish Hospital.

1. Kaufmann-Wolf, M.: Klinische und histologische Beobachtungen bei Hautmetastasen im Anschluss an Karzinom innerer Organe, Arch. f. Dermat. u. Syph. **114**:709, 1913.

2. Bade, W.: Das metastatische Carcinom der Haut im Anschluss an Carcinom innerer Organe, Arch. f. Dermat. u. Syph. **179**:257, 1939.

3. Beck, S. C.: Geschwülste der Haut, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1933, vol. 12, pt. 3.

4. Willis, R. A.: The Spread of Tumors in the Human Body, Monographs of the Baker Institute of Medical Research, London, J. & A. Churchill, 1934, no. 2.

5. Eller, J. J.: Tumors of the Skin, Philadelphia, Lea & Febiger, 1939.

6. Ewing, J.: Neoplastic Diseases, ed. 4, Philadelphia, W. B. Saunders Company, 1940.

Metastasis to the skin from genital carcinomas occurs, but late in the disease. Ovarian carcinoma with metastasis to the skin, however, has rarely been reported in the literature. Ewing,[6] Novak [7] and Sutton and Sutton [8] did not refer to it, and Eller [5] mentioned ovarian carcinoma briefly as a possible primary focus from which cutaneous metastatic lesions might arise. Of the 65 cases of cutaneous metastatic lesions collected by Kaufmann-Wolf, in none was the condition due to a carcinoma of the ovary. Meyer [9] reported on carcinomas of the genital tract with metastasis to the skin but did not include a single case in which the ovary was the organ involved by carcinoma. In all, only 8 cases of metastatic involvement of the skin from primary ovarian carcinoma have been described in the world literature: 5 in the German, 2 in the English and 1 in the Japanese. It is interesting to note that all of these reports have appeared since 1930. This fact is significant, in view of the opinion of Holtermann [10] that the incidence of cutaneous metastasis from all genital carcinomas is increasing. He attributed this to the longer duration of life in patients with genital carcinoma as a result of more efficacious therapy.

The cases reported may be divided into two groups: those in which the lesions of the skin appeared after the diagnosis of an ovarian tumor was made or after the ovaries were removed and those in which lesions of the skin were the first signs of a deep-seated unrecognized ovarian carcinoma. Among the first group are the cases of Bottler,[11] Philipp,[12] Fleischmann [13] and Linzenmeier.[14] In the second group are the cases of Terada [15] and Ottow.[16] Bottler's case was that of a 48 year old patient with carcinoma of the skin which appeared four years after

7. Novak, E.: Gynecological and Obstetrical Pathology, Philadelphia, W. B. Saunders Company, 1940.

8. Sutton, R. L., and Sutton, R. L., Jr.: Diseases of the Skin, St. Louis, C. V. Mosby Company, 1939.

9. Meyer, P.: Métastases cutaneés après cancer des organes génitaux de la femme, Gynécologie **37**:263, 1938.

10. Holtermann, C.: Hautmetastasen bei Genitalkarzinom und ihre Behandlung, Ztschr. f. Geburtsh. u. Gynäk. **114**:350, 1937.

11. Bottler: Seltenes Hautkarzinom nach Ovarialkarzinom, Zentralbl. f. Haut- u. Geschlechtskr. **34**:671, 1930.

12. Philipp, E.: Hautmetastasen bei Ovarialkarzinom, Ztschr. f. Geburtsh. u. Gynäk. **107**:400, 1934.

13. Fleischmann, C.: Spätmetastase nach Exstirpation beiderseitiger karzinomatöser Eierstockzysten, Wien. klin. Wchnschr. **50**:1936, 1937.

14. Linzenmeier, G.: Ueber Hautmetastasen nach operiertem Eierstockkrebs, Zentralbl. f. Gynäk. **54**:355, 1930.

15. Terada, E.: Instance of Primary Ovarian Cancer with Elephantiasis-Like Appearance Due to Its Cutaneous Metastases, Jap. J. Obst. & Gynec. **16**:110, 1933.

16. Ottow, B.: Hautmetastasen bei Ovarialkarzinom, Ztschr. f. Geburtsh. u. Gynäk. **107**:404, 1934.

cancerous ovaries had been removed. The lower extremities assumed an elephantiasis-like appearance, and the skin on these extremities, in the inguinal region and on the abdomen presented first a lichenoid exanthem similar to lichen planus and later solid and ulcerated tumors. Histologically the condition was found to be a metastatic intracanalicular tubular carcinoma of the skin confined entirely to the lymph vessels. In Philipp's patient metastatic involvement of the skin of the right thigh developed eighteen months after bilateral cancerous ovaries had been removed. At the time of operation the inguinal glands were extensively involved. Fleischmann's case was remarkable in that seven and one-half years after the removal of cancerous ovarian cysts a lymph node in the infraclavicular fossa was removed and metastatic carcinoma was found. Recurrences took place with further lymph node involvement in the supraclavicular fossa, and four years later there was mediastinal involvement. Metastasis to various areas of the skin, especially on the extremities, occurred shortly before death, fourteen and one-half years after the first operation. The eruption was first diagnosed as lichen planus.

Among the cases in the second group, Terada's case was that of a 68 year old woman who was first seen because of an elephantiasis-like swelling of the right leg. The diagnosis of metastatic carcinoma of the skin was made by biopsy, and subsequently a primary ovarian tumor was found. The eruption spread to involve, in addition to the right thigh, the external genitalia and the abdominal wall. In Ottow's patient the initial site of cutaneous involvement was around the umbilicus, and the lesion histologically proved to be metastatic carcinoma. At autopsy a primary ovarian carcinoma was found. There were no signs or symptoms in this case or in Terada's case before the appearance of the cutaneous lesions to indicate the presence of an ovarian carcinoma.

Willis,[4] in his study of the spread of tumors in the human body, reported 2 cases of ovarian carcinoma with metastasis to the skin in both apparently as a late manifestation. Details of the clinical course in the cases were not given.

The case to be presented is similar to those of Terada and Ottow, differing only in that a cutaneous lesion of metastatic carcinoma in the thigh appeared eighteen days after cancerous inguinal lymph nodes were removed.

REPORT OF A CASE

A 66 year old Italian woman was admitted to the dermatologic service in June 1940, complaining of intense itching of the right lower extremity and vulva which had been present for several weeks.

In February 1940 her leg had begun to swell and feel "heavy." She had been admitted to another hospital, where hard noninflammatory ovoid masses were found

in both inguinal regions. Histologic examination of one of those nodes showed extensive metastatic infiltration of an epithelial growth with the structure of a papillary cystadenoma. Some of the sections were definitely carcinomatous, the growth suggesting in appearance an ovarian origin. She was discharged from the hospital on April 4 and referred to the dispensary for roentgen therapy. Between May 16 and June 4 she received four roentgen treatments applied to the groin and to the deep parts of the pelvis.

After she left the hospital her leg continued to swell and she began to complain of intense itching of the right groin and thigh. Eighteen days after the biopsy specimen was taken from the inguinal node an erythematous eruption appeared around the site of the incision and extended a short distance downward over the anterior part of the right thigh. In this area itching was most severe.

Fig. 1.—Patient with cutaneous metastatic lesions from an ovarian carcinoma, showing the extent of the eruption and the swelling of the right thigh.

She was afebrile and had no other complaints. A diagnosis of roentgen ray dermatitis was made at this time, and further therapy with roentgen rays was discontinued. However, since the eruption spread farther on the thigh, her family physician had her admitted to the Jewish Hospital for further study.

Her history revealed the surgical repair of a lacerated cervix in 1910, an anterior colporrhaphy for a cystocele in 1935 and an operation for a recurrence of the same condition in 1937. In May of 1939 at this hospital a vaginal polyp was removed from the site of the previous suture line, and the pathologic report was fibroma. In November 1939 she was treated for thrombophlebitis of the right leg and lymphadenitis in the right groin. Recovery was rapid with roentgen therapy and sulfanilamide (paraaminobenzenesulfonamide) administration, and she was discharged after eight days.

There was slight loss of weight in the four months prior to her admission to the Jewish Hospital, with progressive weakness. On moderate exertion she

experienced slight dyspnea. Her menstrual history was normal to the age of 36, when nonsurgical menopause ensued. She had had nine full term normal pregnancies with normal labor. The family and social histories were noncontributory.

Fig. 2.—Photomicrograph of a section of skin showing a dilated lymph vessel containing malignant cells (× 270).

On admission the temperature was 98.2 F., the pulse rate 84, the respiratory rate 20 and the blood pressure 136 systolic and 80 diastolic. The skin of the lower part of the abdomen, of the mons veneris, of the vulva, of the whole circumference

of the right thigh and of the inner aspect of the left thigh was violet-brown and was covered with numerous irregular slightly elevated papules, varying in size from that of a pinhead to that of a split pea and having an elastic consistency.

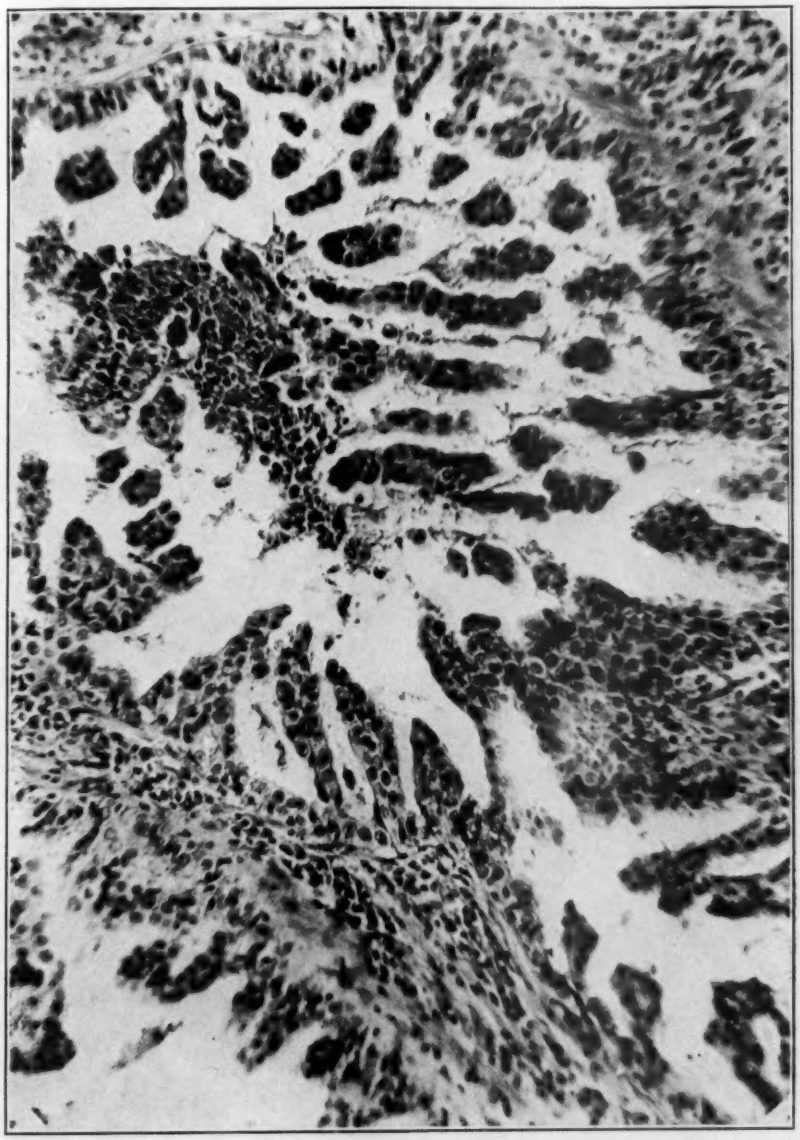


Fig. 3.—Photomicrograph of a section from an inguinal lymph node showing metastatic carcinoma (× 270).

Many of the papules were confluent (fig. 1). The labia majora were edematous. Hard, fixed, confluent masses were palpable in both inguinal regions. The circumference of the right thigh was 2¾ inches (7 cm.) greater than that of the

left, and that of the right calf was 3 inches (7.5 cm.) greater than that of the left. Pitting edema of the entire right lower extremity was pronounced. Pelvic examination revealed that the vaginal vault was shallow owing to the former operations

Fig. 4.—Photomicrograph of a section from a cancerous ovary (× 270).

and adjacent fibrous tissue. There was a sensation of increased resistance in the pelvic tissues, but no pelvic masses were felt. Neither the uterus nor the adnexa were palpable.

Roentgen ray studies of the bones of the pelvis, of the long bones and of the gastrointestinal tract showed no evidence of malignancy.

On histologic examination of the involved areas of the skin the following observations were made: The epithelium showed some hyperkeratosis and parakeratosis. The cutis was edematous, and the lymph spaces were greatly dilated. Groups of epithelial cells of varying size and shape having hyperchromatic nuclei were present within dilated lymph vessels (fig. 2). The nuclei showed numerous mitoses, and the nuclear chromatin was granular. Figure 3 shows the invasion of an inguinal lymph gland by carcinomatous tissue by the presence of the same type of cells.

An exploratory laparotomy with the patient under spinal anesthesia was performed by one of us (C. J. S.) on August 22. Numerous adhesions were observed between the bladder, the uterus and surrounding tissues. The left ovary was deeply embedded in the adhesions and was shelled out with some difficulty. The right ovary could not be located in the dense adhesions.

The pathologic report on the ovary was as follows (Dr. S. Levine):

"The specimen consists of an ovary measuring 6 by 4 by 3.5 cm. and has an irregular nodular surface. It is firm in consistency. On section the tissue is composed of yellowish white nodules of varying sizes, separated by thick fibrous tissue septums. The central portion is soft and gelatinous. Microscopically the tissue is composed of numerous primary and secondary papillae lined by abnormal epithelial cells arranged in layers and having hyperchromatic nuclei of varying sizes and shapes (fig. 4). The tumor cells have infiltrating qualities, and there is considerable necrosis. Numerous cystic areas are noted. The histologic diagnosis is papillary serous cystadenocarcinoma of the ovary."

The postoperative course was uneventful. A course of daily roentgen treatments of the pelvis and the involved areas of skin for six weeks was instituted. After four days of roentgen therapy another biopsy specimen of the skin was taken, this time from a treated area. The tumor cells showed complete regression, indicating a decided radiosensitivity.

When the patient was discharged from the hospital, the eruption was definitely improved and apparently was being controlled by the roentgen treatments. The itching was much relieved. Unfortunately she failed to return to the roentgenologic dispensary for further treatments. When she was again seen about six weeks later, new progressive lesions were present on the lateral aspect of the thigh, on the entire abdominal wall, on the skin of the breasts and in both axillas. Further roentgen treatment was instituted.

COMMENT

Metastasis to the skin from ovarian carcinoma appears to be rare. A review of the literature reveals detailed reports of only 6 cases and brief reports of 2 cases. To our knowledge there is no case of this kind on record in the American literature. Among the 6 cases fully described, in 4 (those of Bottler, Philipp, Fleischmann and Linzenmeier) the metastatic lesions of the skin appeared as more or less late manifestations after the primary tumor in the ovary had been previously diagnosed; while in the remaining 2 cases (those of Terada and Ottow) the histologic structure of the cutaneous lesions pointed to a cancer of the ovary, which was otherwise asymptomatic and unrecognized. The case presented here differs from those in both these groups in that the

cutaneous lesions of metastatic carcinoma did not appear until extirpation of malignant inguinal lymph nodes was performed.

The clinical picture of the disease is particularly interesting because of erysipelas-like features resembling the condition known as "erysipelas carcinomatosum" (Lee and Tannenbaum,[17] Rasch[18] and Pfahler and Case[19]). This condition is seen most often in patients with carcinoma of the breast, the skin presenting erysipelas-like erythema, without systemic manifestations. It occurs after operation but nearly as often independently of surgical intervention. It also has been described after roentgen therapy, leading to the erroneous diagnosis of roentgen ray dermatitis. A diagnosis of roentgen ray dermatitis was made (previous to our observation) in the case reported.

In view of the rather extensive involvement of the skin in this case, it is interesting to note that microscopically the process was confined to the lymph vessels and spaces. These were widely dilated and filled with malignant cells which had the same structure as those in the ovary and in the lymph nodes. The cells were particularly sensitive to roentgen rays.

SUMMARY

1. A case of diffuse cutaneous metastatic lesions from ovarian carcinoma is presented. This case is the first of its kind to be reported in the American literature.

2. A brief review of the literature, comprising only 8 cases, is given.

17. Lee, B. J., and Tannenbaum, N. E.: Inflammatory Carcinoma of the Breast, Surg., Gynec. & Obst. **39**:580, 1924.

18. Rasch, C.: Carcinoma Erysipelatodes, Brit. J. Dermat. **43**:351, 1931.

19. Pfahler, G. E., and Case, E. A.: Erysipelas Carcinomatosum Resembling Radiodermatitis, Am. J. Roentgenol. **35**:804, 1936.

ACROKERATOSIS VERRUCIFORMIS (HOPF)

ADOLPH B. LOVEMAN, M.D.
LOUISVILLE, KY.
AND
PAUL V. GRAHAM, M.D.
WHEELING, W. VA.

In 1930 Gustav Hopf [1] presented before the Hamburg-Altona Dermatological Association 2 patients with unusual wartlike keratoses on the dorsa of the hands and feet. This dermatosis did not fall into any hitherto known classification. To this unusual condition Hopf gave the name acrokeratosis verruciformis. In 1933 [2] he reported 4 additional cases. In his first case the lesions were limited to the backs of the hands, whereas in his second case there were similar lesions on the dorsa of the hands and feet, with some involvement also of the palms and the flexor surfaces of the fingers, wrists and forearms. The lesions on the dorsal surfaces consisted of verrucoid lichenoid polygonal papules not unlike flat warts, varying in size from that of a millet seed to that of a lentil. They were of firm consistency and varied in color from that of normal skin to reddish brown. Nearer the wrist or ankle the papules were fewer and seemed to transform themselves into nevus-like spots with decreased distribution. On the palms the lesions consisted of discrete pinhead-sized to glass pinhead–sized glistening keratotic papules. These were better felt than seen and were observed more easily in tangential light.

Histologically, the essential observations were: a moderate to intense circumscribed hyperkeratosis with invagination of the corneum, corresponding to the rete pegs, which formed a rather wavy line; hypergranulosis, and a mild to moderate acanthosis. There was no parakeratosis, vacuolation or cellular degeneration, and little, if any, cellular infiltrate was seen in the corium.

Kren is alleged to have reported a similar case in 1921, and Wise described similar changes in 2 patients prior to 1929 with the diagnosis of verruca multiplex. Wise [3] has since informed us, however, that he

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From the Department of Dermatology and Syphilology, University of Louisville School of Medicine, Louisville, Ky.

1. Hopf, G.: Ueber eine bisher nicht beschriebene disseminierte Keratose (Akrokeratosis verruciformis), Dermat. Ztschr. **60**:227, 1931.

2. Hopf, G.: Morphologische und pathogeniliche Untersuchungen über primäre Keratosum, Arch. f. Dermat. u. Syph. **167**:344, 1933.

3. Wise, F.: Personal communication to the authors.

has observed only 1 typical case, corresponding to the cases described by Hopf, in the past thirty-five years. Since Hopf's original description there have been only 2 reports of other cases with the same diagnosis, those of Lenartowicz [4] and Kovacs,[5] bringing the total number of cases reported to 8. The only references to acrokeratosis verruciformis in the American literature are found in articles by Sullivan and Ellis [6] and by Wise and Satenstein,[7] in their papers on epidermodysplasia verruciformis, a brief note admitting the existence of such a condition by Sutton and Sutton [8] and an abstract of Hopf's article (illustrated) in the Year Book of Dermatology and Syphilology for 1933.[9]

In Hopf's original cases the lesions were limited to the extremities and made their appearance at puberty. Since then Hopf [2] has seen several patients with lesions on the face. Hopf,[2] Rehn [10] and Kovacs [5] have observed cases in which lesions appeared at birth or in early childhood and have also noted the condition in several members of the same family.

REPORT OF A CASE

History.—V. E., a 24 year old white woman, has been under treatment in the dermatologic clinic of the Louisville City Hospital for the past four or five years for "warts" on the dorsa of the hands, which, according to the mother, appeared at birth or in early infancy. During this time she has received several courses of protiodide of mercury, various keratolytics and 600 r of roentgen rays (75 r of unfiltrated rays at weekly intervals for eight weeks), without any appreciable effect.

There is no consanguinity of the parents. The father died of an unknown cause. The mother is living and well but has had a similar eruption since birth; she had active tuberculosis six years ago.

The patient had diphtheria as a child. The menses began at the age of 14, and the intervals and duration have been normal.

The patient has been married nine years and has had four miscarriages, at seven, eight, seven and four months respectively. She has 1 living child, 3 months old, which was examined and found to be free from any cutaneous disease or other abnormality of the skin. Repeated examinations have revealed no evidence of syphilis.

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4. Lenartowicz: Zentralbl. f. Haut- u. Geschlechtskr. **58**:615, 1938.

5. Kovacs, S.: Ein Fall von Akrokeratosis verruciformis Hopf, Dermatologica **81**:6 (Jan.) 1940.

6. Sullivan, M., and Ellis, F. A.: Epidermodysplasia Verruciformis (Lewandowsky and Lutz), Arch. Dermat. & Syph. **40**:422 (Sept.) 1939.

7. Wise, F., and Satenstein, O. L.: Epidermodysplasia Verruciformis (Lewandowsky-Lutz), Arch. Dermat. & Syph. **40**:742 (Nov.) 1939.

8. Sutton, R. L., and Sutton, R. L., Jr.: Diseases of the Skin, St. Louis, C. V. Mosby Company, 1935.

9. Hopf;[2] abstracted, Wise, F., and Sulzberger, M. B.: Year Book of Dermatology and Syphilology, Chicago, The Year Book Publishers, Inc., 1933.

10. Rehn, cited by Hopf.[2]

Laboratory Data.—The results of laboratory tests were essentially negative. The Kahn reaction was negative.

Physical Examination.—General examination reveals only a lacerated uterine cervix with moderate mucopurulent discharge. The skin in general shows an unusual "muddy" mottling and slight hyperpigmentation. The texture in the nonaffected areas is normal. Scattered over the body are numerous pigmented nevi and five or six soft fibrous papillomas.

Discrete papules, varying in size from that of a pinpoint to 3 mm. in diameter with elevation up to 1.5 mm., are seen on both knees, anteriorly and posteriorly, and extending from the elbows to the finger tips and from the ankles to the tips of the toes, on both the dorsal and the volar surfaces. These lesions increase generally in number and size the nearer they are located to the wrist, and on the dorsum

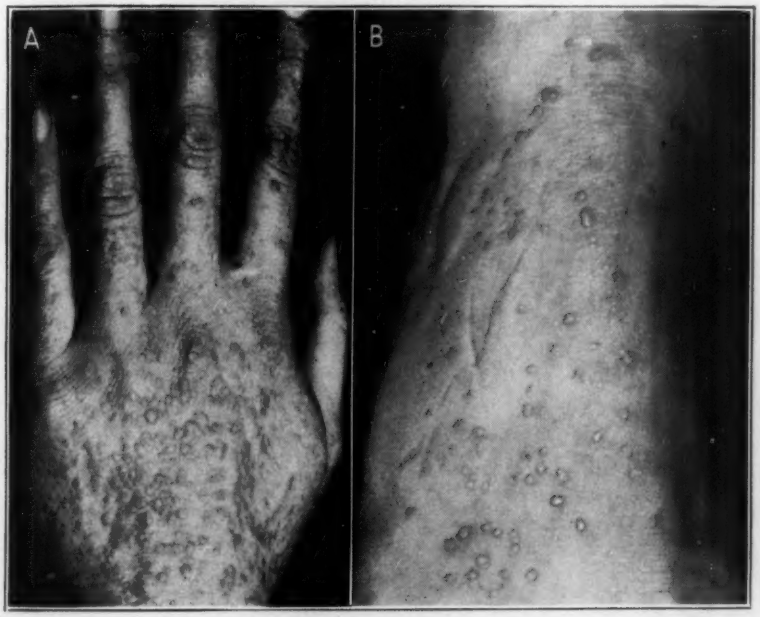

Fig. 1.—Characteristic lichenoid and verrucoid papules on the dorsum of the hand *(A)* and of the foot *(B)* in a patient with acrokeratosis verruciformis (Hopf). Note fewer lesions on the foot than on the hand.

of the hand some become confluent. From the bases of the fingers to the tips the number and size decrease, those on the terminal phalanges being pinpoint in size. The lesions are less numerous on the palms and soles than on the dorsa of the hands and feet. The nails are more brittle than normal.

The lesions on the dorsa of the hands are flat and round-topped polygonal lichenoid verrucous papules not unlike flat warts in appearance (fig. 1 *A*). Their color varies from that of normal skin to a dusty light reddish brown. Some of the lesions have become confluent, but even where this has occurred the individual papules can still be made out. The lesions are not scaly; they are firm in consistency, resembling somewhat the papules seen in amyloidosis. They extend to the sides of the wrist and 1 or 2 inches (2.5 to 5 cm.) above,

but the nearer the wrist the more sparse they are. On the palms the patient has pinhead-sized to slightly larger discrete whitish glistening embedded, though slightly raised, keratotic papules. These are better seen when the hands are bent backward and stretched. They are likewise more easily observed in tangential light and are better felt than seen.

On the dorsal surface of the feet (fig. 1 *B*) the lesions are paler, more discrete and less numerous. They extend slightly above the ankles. The soles are involved to a lesser extent than the palms, with lesions present only in the midportion, the ball and heel being entirely free. A number of the lesions on the soles suggested some central umbilication.

On the right palm at the base of the index finger is a flat and smooth-topped translucent yellowish orange verruca-vulgaris-like papule, with an elevation of 1 mm. and a diameter of 10 mm.

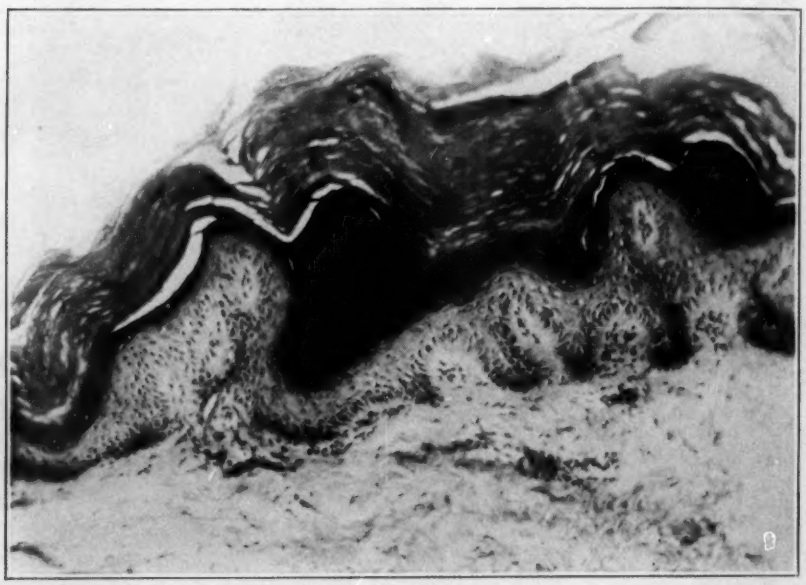

Fig. 2.—Photomicrograph showing wavy hyperkeratosis, hypergranulosis and mild to moderate acanthosis. There is no parakeratosis, basket weave vacuolation or cellular degeneration, and there is only slight cellular infiltration in the corium.

The skin of the legs, from the ankle to the knee, is normal. The scalp is normal except over the right mastoid area, where there are several flat-topped papules identical with those on the dorsa of the hands.

Histologic Examination.—Three separate biopsy specimens have been taken from papules on the dorsa of the hands. The first one was removed about four years ago, at which time it was examined for amyloid, with negative results. All sections showed essentially the same disturbance, varying however in degree. There was definite circumscribed thickening of the stratum corneum, forming a wavy line as the hyperkeratotic area dipped down over the papillary bodies (fig. 2). There was no nuclear pigmentation or other evidence of parakeratosis. There was some acanthosis. A rather decided hypergranulosis was present, but

this was much more evident in some areas than in others. The basal cell layer was essentially normal. There was no vacuolation, parakeratosis or cellular degeneration. The cutis was normal except for a slight increase in cells in the papillary layer.

The histologic picture is identical with that in Hopf's cases, an excellent photomicrograph of which was reproduced in the 1933 Year Book of Dermatology and Syphilology.[9]

Examination of Mother.—The mother would permit examination only of her hands, stating definitely that the condition was limited wholly to these areas. Examination of the palms and dorsa of the hands revealed an eruption identical with that of the daughter but much less pronounced. Biopsy was not performed.

COMMENT

When the patient was first seen in the clinic, four years ago, we realized that the eruption was an unusual one and one which we had never seen before. We were unable at the time, however, to make an accurate diagnosis and had to be satisfied with a tentative diagnosis of atypical verruca plana juvenilis until Sullivan and Ellis and Wise and Sátenstein published their papers on epidermodysplasia verruciformis. We then assumed that our case was an instance of this condition. The histologic picture, however, did not substantiate this diagnosis, because there was no characteristic basket weave vacuolation in the prickle cell layer, no cellular degeneration and no parakeratosis. We then chanced to read Hopf's article on acrokeratosis verruciformis and, after thorough studies, were convinced that the condition in our case was a typical example of this rare dermatosis. Dr. Fred Wise concurred after having examined numerous histologic sections for us as well as having seen a number of photographs of the lesions.

A most comprehensive discussion of this disease is given by Hopf.[2] His criteria for differential diagnosis are complete, and any one interested in this condition is urged to read his original article in full. Here we are concerned for the most part with discussing some of the more common conditions from which this interesting and rare dermatosis must be differentiated. We are indebted to Hopf's article for much of the following information.

DIFFERENTIAL DIAGNOSIS OF LESIONS ON THE DORSA OF THE HANDS AND FEET

1. *Verruca Plana Juvenilis.*—Clinically the lesions in the case reported resemble flat warts to a striking degree. They differ, however, in many ways: 1. They have been present since birth, while flat warts rarely last longer than three or four years. 2. They have resisted all types of "antiwart" therapy. 3. There is a familial tendency (the mother has a similar condition). 4. The lesions are too symmetric for flat warts, and they involve the palms, which are unusual sites for

verruca plana juvenilis. These characteristics in themselves would serve to differentiate this condition from flat warts. We have, however, further evidence. The individual lesions have more of an amyloid appearance, are more lichenoid and show more infiltration. In Hopf's cases he failed to inoculate a virus from the lesions into other portions of the body. He further emphasized that vacuolation, cellular degeneration and parakeratosis are found regularly in plane warts, especially if they have been present for some time. In addition, there is usually a moderate cellular infiltration in the upper part of the corium. According to him, the changes present in acrokeratosis verruciformis respecting the slight changes in cellular structure could be characterized as the physiologic normal. The deviation constitutes an isolated quantitative increase in cornification.

2. *Epidermodysplasia Verruciformis (Lewandowsky-Lutz).*—In spite of the theoretic distinction between this condition and acrokeratosis verruciformis, it is difficult at times to differentiate them, and one must depend a great deal on the histologic observations. The lesions on the dorsa of the hands and feet look similar, although in our case the papules are smaller and there are no well developed confluent nodules. In epidermodysplasia verruciformis there are practically always large verruca-vulgaris-like lesions. Our patient presents one such lesion, which we believe should be considered rather unusual for this condition. In a case of epidermodysplasia verruciformis, as contrasted with our case, the disease is usually more generalized, and some of the lesions have been observed to become epitheliomatous. No such changes, either clinically or histologically, have been noted in our case. If vacuolation, parakeratosis and cellular degeneration are constant observations in cases of epidermodysplasia verruciformis (a generally accepted view), then it is on this histologic evidence that the condition in our case can be further differentiated from this disease. In this case there is no characteristic basket weave vacuolation, parakeratosis or degenerative change. Clinically, the condition possesses all of the characteristics of acrokeratosis verruciformis and yet, in addition, many features of epidermodysplasia verruciformis. Is it not conceivable that such a condition may be the connecting link between the two diseases or that acrokeratosis verruciformis and epidermodysplasia verruciformis, after further study of many cases, may be shown to be variants of the same disease?

3. *Keratosis Follicularis (Darier's Disease).*—Unquestionably, one of the most difficult conditions from which acrokeratosis verruciformis is to be differentiated is an abortive form of Darier's disease. Darier himself recognized and described certain cases of dyskeratosis follicularis with keratoderma dissipatum lesions on the palms and disseminated keratoses, or flat wartlike lesions, on the dorsa. According to Darier, when these lesions are present, even though histologically they do not

reveal dyskeratotic changes, if accompanied by other typical characteristics of this disease (Darier's), no matter how minimum, they should be considered manifestations of keratosis follicularis. Occasionally these plane-wart-like lesions may show the characteristic histologic changes of Darier's disease, but according to Hopf this is not the rule. We have been following a third patient with acrokeratosis verruciformis which is identical with that in the case reported except that the lesions are much less striking. The histologic structure is typical of acrokeratosis verruciformis, yet a small verrucous papule taken from behind the ear reveals the characteristic histologic picture of Darier's dyskeratosis. Unquestionably, a close relation must exist between these two conditions. Until more cases are reported and carefully analyzed we suggest that acrokeratosis verruciformis (Hopf) be considered an entity but that its diagnosis be limited to conditions like those originally and subsequently described by Hopf. If there is evidence of Darier's disease elsewhere, then for the present such phenomena should be regarded either as manifestations of Darier's dyskeratosis or as Darier's disease with acrokeratosis verruciformis-like lesions. Hopf stated the belief that these lesions are not a part of Darier's disease but should be considered as a combination of Darier's disease with other disseminated forms of keratoses limited to specific regions. Wise, however, disagreed with Hopf and stated the belief that the lesions on the hands and elsewhere in a patient with Darier's disease simply represent atypical (perhaps undeveloped) manifestations of Darier's disease.

4. *Discrete Keratoderma of the Dorsa of the Hands (Michael).*—Hopf and others mentioned the fact that Michael [11] reported 3 similar cases under the aforementioned title. We have reviewed Michael's cases carefully and are of the opinion that they offer little similarity to the cases under consideration. In the first place, in Michael's patients the condition did not make its appearance until long after puberty (33, 24 and 29 years of age, respectively). Although they were resistant to therapy, the lesions in 1 case were supposed to have disappeared. Furthermore, the papules in his cases were much larger than those usually seen in acrokeratosis verruciformis and were in isolated groups rather than distributed symmetrically over the dorsa. Hopf's disease is unquestionably a rare dermatosis, and it is unlikely that Michael would encounter 3 cases in which the condition was limited entirely to the dorsa of the hands with no involvement of palms, soles or dorsa of feet. Michael considered the condition in his cases to be an acquired disturbance with the onset in the corium and the changes in the epidermis secondary. Histologically the condition in his cases did resemble to a

11. Michael, J. C.: Discrete Keratoderma of the Dorsum of the Hands, Arch. Dermat. & Syph. **21**:215 (Feb.) 1930.

great extent acrokeratosis verruciformis, yet definite differences were noted. The corium did not form a wavy line, as is characteristic with acrokeratosis verruciformis, and in many of his sections he noted parakeratosis, which is not present in acrokeratosis verruciformis. Furthermore, the rete pegs were long and thin, somewhat similar to those seen in psoriasis. The mere fact that Michael considered psoriasis and eczema in the differential diagnosis makes it highly unlikely that his cases were instances of the disease described by Hopf. Thus, we feel that both clinically and histologically the condition in his cases differs decidedly from acrokeratosis verruciformis. This opinion was also expressed by Wise.[12]

Comment on Differential Diagnosis.—We do not feel it essential to discuss in detail the differential diagnosis of disseminated keratosis of the palms and soles. We agree with Hopf, however, that the lesions on the palms and soles noted so frequently in association with acrokeratosis verruciformis on the dorsa represent weakly developed disseminated keratosis (keratoma dissipatum palmare et plantare hereditarium [Brauer]; keratoderma maculosum disseminatum palmare et plantare [Buschke and Fischer]).

In discussing the relations between the lesions on the volar and those on the dorsal surfaces, Hopf mentioned some authors (Rinsema and Schonhoff) who had described a combination of keratoma dissipatum with verrucous formations on the dorsal surfaces. In most of these cases, however, the involvement of the palms was the dominant feature and detailed descriptions were lacking as to the clinical and histologic characteristics of the lesions on the dorsa. The latter, according to Wise, merely represented an upward extension of the same dermatosis.

The close similarity of acrokeratosis verruciformis to epidermodysplasia verruciformis and abortive Darier's disease suggests either variants of the same phenomena or certainly a close relation. In Hopf's original case the lesions were limited to the dorsa of the hands and appeared at puberty. Subsequently he enlarged his conception of the disease when he observed similar cases in which the condition dated from birth or early childhood and saw lesions on the palms, soles and face. Thus, as more cases are observed and carefully studied, undoubtedly there will be noted greater diversity in the observations. Our third case illustrates admirably the existence of several of these diseases in combination. This case would have been reported in detail as one of acrokeratosis verruciformis if the lesions had been more pronounced or if there had not been histologic evidence of Darier's disease in a lesion taken from behind the ear. The condition showed both clinical and histologic evidence of Hopf's acrokeratosis verruciformis but was not a representative example of this dermatosis.

12. Wise, F.: Personal communication to the author.

At first Hopf was unable to classify his dermatosis. Later, however, he began to realize that keratoderma dissipatum lesions could be found on the palms and soles in many of his cases and also in cases of abortive Darier's disease. Likewise, acrokeratosis-verruciformis-like papules had been described in abortive Darier's disease. Thus he felt that all of these conditions were closely interrelated. We concur in this viewpoint and believe further that they may each exist independently or in combination with the other. All are, according to Hopf, disturbances of the germ plasm of nevoid origin. Each condition should be described and thought of as a clinical entity only when it exists alone or when one condition is so prominent that only minimum evidence is available to diagnose any of the other coexisting conditions.

We agree with Hopf and with Kovacs that the reactionless nature of the cutaneous changes persisting many years along with the familial tendency in certain cases leads to the conclusion that acrokeratosis verruciformis is an "independent abnormality of keratinization of germ plasm origin and nevoid character." Such an entity may frequently occur alone but may often accompany other changes of similar origin.

SUMMARY

A case of acrokeratosis verruciformis is reported in a young woman whose mother also shows evidence of the disease. The mother permitted an examination of only her hands and would not consent to biopsy. In the daughter the lesions are confined for the most part to the dorsa of the hands and feet, although the lower aspects of the legs and forearms show some involvement. The lesions consist of discrete and confluent verruca-plana-like papules, pinpoint sized to 3 mm. in diameter. They are accompanied by a disseminated keratosis of the palms and soles. Histologically the papules from the dorsa show moderate wavy hyperkeratosis, hypergranulosis and acanthosis. There is no parakeratosis, cellular degeneration, or vacuolation and practically no cellular infiltrate in the corium. The differential diagnosis from other conditions on the dorsa is discussed. We believe acrokeratosis verruciformis to be a definite clinical entity of nevoid origin which may exist alone or in combination with other conditions of similar origin. Although a clinical entity, it should be considered along with other similar conditions as one of the many nevoid verrucous dermatosis.

Dr. Fred Wise, New York, offered many valuable suggestions, and Dr. A. J. Miller of the department of pathology, University of Louisville School of Medicine, supplied the photomicrographs.

NEURODERMATITIS TREATED WITH HYPOGLYCEMIC REACTIONS

SIDNEY J. TILLIM, M.D.
AND
MILDRED T. SQUIRES, M.D.
AMITYVILLE, N. Y.

The group of dermatoses variously considered under the names neurodermatitis, atopic dermatitis and generalized or disseminated neurodermatitis are among the most resistant therapeutic problems in dermatologic practice. The remedies which have been tried with more or less indifferent results include symptomatic management, allergic studies and desensitization, actinotherapy, dietotherapy and oral and parenteral administration of many medicaments. With any of these methods treatment lasts for months, even years; yet some patients recover without any special treatment. Most of the patients with the severe conditions require psychiatric attention—perhaps all do—because of an underlying depression and emotional tension. It does not follow that all patients with neurodermatitis, the term preferred in this communication, need psychiatric hospitalization. Under the present status psychiatrists have been inclined to disregard cutaneous disturbances until they become a major distress to the patient and interfere with psychiatric care. Then a dermatologist is invited for the service of his specialty. Per contra, patients unaware of a mental factor first seek aid from a general practitioner or a dermatologist, and the psychiatrist is called when the patient has become unmanageable and is perhaps threatening suicide. He is then usually hospitalized for safe keeping. To date there has been nothing available to give sure and lasting relief from the suffering which some of the patients experience.

The available reports on this subject are almost exclusively from dermatologists and allergists. They differ radically in their opinions about the etiologic nature of the disturbance; some stress the emotional factor,[1] and others claim the condition is an allergic reaction.[2] Those who

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From the Long Island Home.

1. (*a*) Stokes, J. H., and Pillsbury, D. M.: The Effect on the Skin of Emotional and Nervous States, Arch. Dermat. & Syph. **22**:962 (Dec.) 1930. (*b*) Goeckerman, W. H.: The Relationship of the Emotions and Cutaneous Lesions, M. Clin. North America **14**:645 (Nov.) 1930. (*c*) van de Erve, J. M., and Becker, S. W.: Functional Studies in Patients with the Neurodermatoses, J. A. M. A. **105**:1098 (Oct. 5) 1935. (*d*) Sack, W. T.: Psyche und Haut, in Jadas-

are allergically minded believe it is due to "specific vascular skin hypersensitivity to foods and/or to environmental allergens." [3] But they admit, "There is as yet no convincing evidence that atopic dermatitis can be regularly . . . ameliorated by removal of allergens." They would rather "assume that the general concept of allergy is probably correct but that the specific exciting cause is frequently missed." [2c] The dermatologists who are convinced that there is an emotional factor in the causation of neurodermatitis hold a more liberal view of the problem. Stokes and Pillsbury,[1n] as representatives of this group, stated: "Following the rule generally applicable to all problems of this sort, no one element in etiology, pathogenesis or treatment can be allowed to usurp the field to the exclusion of others." Yet Rattner and Pusey [4] made the statement, "The insistence on the importance of nervous factors as a cause of eczema, and many other dermatoses, is a backward step into an old maze of conjecture." The subject is obviously highly controversial.

Our interest in the neurodermatoses was aroused by the need for an effective treatment of a stubborn dermatitis which complicated the management of 2 depressed patients. Since the frequent good effects of insulin shock therapy on the skin were known, these patients were given short courses of mild hypoglycemic shocks. The gratifying results of the empiric trials led to the treatment of additional patients. In all, 5 patients were thus treated.

In the further study of this problem an examination of a symptomatologic index file at Phipps Psychiatric Clinic, Baltimore, was permitted. Ninety-four patients with various psychiatric diagnoses had some form of cutaneous disturbance. Exclusive of a few organic diseases and irrespective of the psychiatric grouping of the patients, all showed some degree of emotional tension. This observation added weight to the impression that the problem has importance and that our experience may prove of interest to others. The patients treated were from the regular psychiatric services of a private sanatorium. The patients in cases 6 and 7 were from Phipps Psychiatric Clinic.

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sohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1933, vol. 4, pt. 2.

2. (*a*) Hill, L. W., and Sulzberger, M. B.: Evolution of Atopic Dermatitis, Arch. Dermat. & Syph. **32**:451 (Sept.) 1935. (*b*) Taub, S. J., and Zakon, S. J.: Neurodermatitis Due to Protein Sensitization, J. Allergy **5**:53 (Nov.) 1933. (*c*) Feinberg, S. M.: Seasonal Atopic Dermatitis, Arch. Dermat. & Syph. **40**:200 (Aug.) 1939.

3. Sulzberger, M. B., and Goodman, J. J.: The Relative Importance of Specific Skin Hypersensitivity in Adult Atopic Dermatitis, J. A. M. A. **106**:1000 (March 21) 1936.

4. Rattner, H., and Pusey, W. A.: Neurodermatitis or Irritant Dermatitis, J. A. M. A. **99**:1934 (Dec. 3) 1932.

REPORT OF CASES

CASE 1.—A married woman aged 30 was admitted on Sept. 28, 1939 in a state of mental depression. The parents were of English extraction. A brother and 1 sister were the only other siblings. It was asserted that there was no familial tendency toward mental illness.

The patient's early life was uneventful. She was a healthy, happy, good natured person. After the third year in high school she kept house for her mother until her marriage, at the age of 23. She had 1 child, and the marriage was happy until December 1938, when the husband told her of his love for another woman. There was much quarreling and reproach until he left her in April 1939. Almost immediately she was depressed, self depreciatory and agitated, and a dangerous antagonism toward the child developed. She complained that something had happened to her brain; it felt dead, and she could not concentrate. Repeatedly she asked her mother, "Why don't you kill me?" The results of physical examination were all normal except for a pulse rate of 100. The clinical course was that of a depression with moderate agitation until January 1940, when there was an increase in irritability. About the same time she began to complain of an itching on the flexor surfaces of the arms and on the upper part of her body. There were no observable changes in the skin beyond the dryness and dermatographia usually associated with long depressions. Soothing baths and lotions afforded only temporary relief from itching. Two weeks later a scaly maculopapular rash appeared on the affected areas. As the constant itching seriously interfered with the patient's sleep and increased her irritability, all topical and oral medication was discontinued, and insulin therapy for moderate hypoglycemic reactions was started, according to the following schedule: January 23, 40 units at 9:30 a. m. and 60 units at 2:30 p. m.; January 24, 60 units at 2:30 p. m., and January 25, 80 units at 2:30 p. m. This treatment was continued on January 28, 29, 30 and 31. During January 26 and 27, when she was already free from itching, her spirits improved so much that she was allowed her first week-end visit home since hospitalization. When the treatments were discontinued all semblance of the dermatitis had disappeared. She was discharged as recovered on April 10.

The objective in the hypoglycemic reactions was to produce active diaphoresis and some degree of somnolence or relaxation within two and one-half to three hours of the injection. The treatments were timed to be terminated by administration of an adequate amount of dextrose as near the regular meal time as practicable. There were no modifications made in her diet or in the routine care previously followed.

CASE 2.—A married woman aged 38 was admitted on Oct. 25, 1939 with circular manic-depressive psychosis. Her father was an emotional, easily excited person. There was no family history of mental illness.

The patient's early life was normal until her mother's death. After graduating from high school, as the oldest of 6 children she began to work and also assumed responsibilities for the household. She had fluctuations of mood but worked efficiently as a secretary until her marriage, at the age of 22. There was a poor sexual adjustment from the beginning, but she was a devoted and anxious mother to her 2 children. In her normal personality she showed warmth and friendliness, even though a vein of suspicion was apt to color her relations with other persons. She resented her husband's affection for his parents.

Since the age of 26 there had been a definite tendency to circular swings of mood, and she had been hospitalized several times on this account. During her

present hospitalization, while in a prolonged manic phase, she complained of "a terrible itching" on her arms, legs, chest, face and scalp. There were no signs of a dermatitis; only a moderate dryness and scratch marks were visible. A week later a fine maculopapular rash could be seen on close scrutiny. Baths and lotions gave only transient relief from the itching. At this time, March 25, 1940, it was decided to administer a course of moderate hypoglycemic reactions in anticipation of affecting favorably the mounting tension and hypomanic swing. After the second day of treatment she stopped complaining, and a few days later the rash completely disappeared. There was no recurrence of the eruption to the time of her discharge from the hospital, on June 20.

CASE 3.—A married man aged 40 was admitted on May 28, 1940 with a generalized pruritic dermatitis and with mental depression. Neither the patient nor a brother who accompanied him was cooperative for an adequate history. However, a family history of mental illness was not elicited.

He was born in Russia of Jewish descent. His father died during a famine, and the mother and 10 siblings immigrated to the United States when the patient was 11 years of age. After attending grammar school for a while he was apprenticed to a carpenter and worked at the trade until his marriage, at 27. He then moved to Canada, where he conducted a profitable grocery business to the time of his illness. He had 1 child 9 years old and claimed his married life was happy, although the brother stated there was much quarreling. Normally he was energetic, ambitious, uncommunicative and impatient, though he liked people and was sociable. In January 1940 he consulted a physician about an itching between his fingers. He had previously been depressed for two years. Weeks of ambulatory care brought no relief; instead the dermatitis spread to other parts of the body. The continuous itching made life unbearable, and he became depressed and agitated. He was hospitalized several times, but each time he soon demanded his release when no relief was found. On admission to the Long Island Home he was tense, fearful, depressed and discouraged. He was irritable and quarrelsome and was easily made paranoic by his environment. Physical examination showed a generalized maculopapular rash most pronounced on the arms and legs, numerous scratch marks and bleeding areas from the scratching, enlargement of the inguinal and axillary glands, a fine tremor of the fingers, dermatographia and a rough dryness of the entire skin. Laboratory tests showed eosinophilia (20 per cent eosinophils), slight secondary anemia and a trace of albumin in the urine.

From May 28 to June 4 he was agitated, irritable, demanding, abusive, paranoic and noisy. The clinical picture remained unaffected despite a multitude of medicaments, topical applications and baths and judicious amounts of sedatives. Occasional wet packs were administered for urgently needed restraint against self injury and assaultiveness. With the beginning of hypoglycemic therapy all other forms of therapy were discontinued. The first night, June 4, he slept five and one-half hours without the aid of sedatives. The second night he slept six and one-half hours and had only 5 grains (0.32 Gm.) of acetylsalicylic acid, which was given because he complained of a headache. With the morning treatment he had a convulsion during the period of hypoglycemia. After the fourth day of treatment he voluntarily stated that he was completely free of itching, and there was a notable improvement in the appearance of the skin. On June 12 he objected to further treatment, insisting that the rash had sufficiently cleared to permit his leaving the hospital and that he had not felt any itching for some days. On June 14 the treatment was discontinued. The nonindurated lesions had completely healed, and the lichenified areas were healing satisfactorily when he left the sana-

torium two days later. He was able to get from seven to eight hours of sleep at night without sedatives. Several days later he called for his belongings. He said that he was doing well and planned to return to his business. He was still emotionally tense. An interesting change in his eosinophil count was noticed; on June 7 it dropped to 6 per cent, and on the fourteenth it rose to 10 per cent.

CASE 4.—A married man aged 42 was transferred to our sanatorium on June 17, 1940 for hypoglycemic shock therapy of chronic paranoid schizophrenia. There was no family history of mental illness, but 2 sisters appeared to be excitable. The patient was of Jewish descent. He had been extraordinarily quiet, seclusive and asocial but always extremely sensitive, easily suspicious and quickly infuriated. At the age of 17 he lost his father and had to live with his grandparents. With limited financial aid he educated himself as an accountant and was chief bookkeeper of a large hospital at the age of 25. Because his father had owned a drugstore he decided to study pharmacy. Three years later he owned and operated a drug store and continued to do so successfully until his present illness. His marriage, at 30, proved unhappy because his wife refused pregnancy. He was obliged to practice coitus interruptus and to use rubber shields, which often caused him to be nervous and irritable. He soon expressed fears for his physical and mental health on account of this but would not divorce his wife, who was willing to be divorced. Early in 1933 he agreed to take an extended trip abroad by himself. While on board ship he began to voice his delusions of being followed for evidence in divorce proceedings. When he reached London he had many other delusions and had to be hospitalized. He was returned under guard to this country and has been continuously in sanatoriums, leading an autistic and deteriorated existence, tense, impulsive, assaultive, destructive and homicidal. In the beginning there was also a strong suicidal drive. Through the years of illness he was under constant guard, most of the time in seclusion, and when first seen at this hospital he appeared like a much cowed primitive being, fearful but caring nothing about environment. He carried his head low, with his hands moving in front of him, and walked unsteadily, his glance on the floor, mumbling to himself. His habits were dirty, and he could not be approached without danger of assault. In the records of two previous periods of hospitalization there was no mention of any dermatitis, yet a chronic seborrheic eczema of the scalp, ears, nose and eyebrows was conspicuous. The skin of his hands was involved in an exfoliative process, and the finger nails were brittle. The mental picture had apparently overshadowed the cutaneous disturbance. He showed no physical contraindications for the projected insulin shock therapy.

Three weeks of treatment produced a notable improvement in his behavior and an even greater improvement in the condition of the skin. However, the most striking benefit at the close of ten weeks of treatment was the almost complete disappearance of the dermatitis, all except slight traces on the parietal portions of the scalp. Six weeks later there were signs of returning irritability, primarily because he could not grasp the need for further hospitalization, and the remnants of the dermatitis tended to spread. On October 14 he began another course of hypoglycemic shocks for four weeks, less drastic than the first course. As a result he showed further mental improvement and complete disappearance of the eczema. His relatives recently commented on the normal color and smoothness of the skin; they had taken for granted that the previous condition was a chronic, incurable disease.

CASE 5.—A widow aged 41 was admitted on Nov. 1, 1938 in a tense, severely depressed state. Her father had been a quiet, friendly person. He died after

an appendectomy at the age of 27. The mother, in her sixties, had been emotional all her life. During her thirties and forties she drank excessively. At some time during this period she suffered from eczema about her ears and scalp, which lasted a number of years. Since the patient's present illness she experienced a brief episode of an active paranoid state. The younger sister, the only other sibling, a school teacher, had eczema of the ears and scalp between the ages of 18 and 34, which was finally cured by a prescription from a general practitioner and, incidentally, after she had met her future husband. A maternal uncle had a depression at the age of 60 when he was pensioned.

The patient had been a nervous, wilful child, often disobedient, for which her mother frequently punished her. At the age of 5 years she lost her father and was brought up mainly by a grandmother, who was a strict and religious Italian. At 14 years of age she insisted on going to work, mainly to feel independent and to contribute to the family income. She was popular and had several suitors before she married at 25; she chose for a husband, against her mother's advice, a lame alcoholic addict. She accepted him in a civil ceremony because he was sensitive, although she was a devout Catholic. One week after marriage menstruation was delayed; so she took a mustard foot bath to bring it on. The next day she menstruated, but she promptly had a depression with obsessive ideas of an unpardonable sin. She recovered in a few months and one year later gave birth to her only child. Six years later the husband died from alcoholism, leaving her penniless. She soon found work in a shop and was employed until the present illness.

In June 1938 she had a subtotal hysterectomy because of fibroids. On recovery from the immediate effects of the operation she became depressed over the delusion that she had been operated on for carcinoma and would soon die. On admission she was agitated and depressed. She had not been able to sleep and had lost considerable weight. The results of physical examination were all normal, except for a pronounced dermatographia and a functional tachycardia. The agitation increased, and her behavior became worse. After six months convulsions were produced in the patient three times by means of metrazol, with the hope of effecting some improvement. Instead there was a change for the worse; in place of the cancer obsession there appeared a typical profusion of depressive ideas with a paranoid coloring and increased tension. She talked frankly of homicide and suicide and did make a serious suicidal attempt. At this time she showed the beginning of an eczema about her ears, which slowly spread to the sides of her face and scalp despite various local treatments. By October 1940 her behavior was much improved, although the trend remained much the same. She was treated for four weeks with subcoma hypoglycemic shocks, and the dermatitis cleared, except for a narrow strip behind each ear. A second course of treatment a month later completed the cure of the eczema. The patient is still depressed at the time of writing. Where there will be a recurrence of the eczema soon if she remains depressed cannot be decided at this time.

Case 6.—C. W., a single man aged 32, was admitted to Phipps Psychiatric Clinic on Feb. 14, 1930 with hysteria and generalized dermatitis. The parents were Jewish. There was no family history of mental illness; a physician who knew the family, however, considered the members neurotic and high-strung, though intelligent. A maternal cousin had a depression in 1929 and some years later committed suicide in another attack. The father suffered from excessive perspiration of the hands, as had the patient for years before the present illness.

His early life was uneventful. As an only child raised by an overattentive mother he was timid and often the butt of his schoolmates. School work was easy for him. He graduated from college and from a special business course, the latter against the wishes of the family. After serving an enlistment in the army for the duration of the war in 1917 and 1918, rising to the rank of lieutenant, he entered business. For the five years preceding the present illness he worked hard and gained rapid promotions in the face of extreme competition, rising from sales clerk to manager of a large department store. During this period he sacrificed all recreation and outside interests. For years he had noticed a nervous twitching of the eyelid and excessive perspiration of the hands when embarrassed. He considered himself capable of excellent control, probably at great emotional expense. He had had a moderate amount of heterosexual experience but would not discuss the subject because it might be related to his illness and thus imply a sexual abnormality. He did not marry because his mother's companionship had been "so perfect" that prospective wives suffered in comparison.

A few months before the first signs of the dermatitis appeared he was often very tired. He had been working hard under great strain and tension. In the first consultation with a physician he was told that he was nervous and overworked and was advised to take a rest. He felt that the demands of the business were too great for him to follow this advice. The few lesions on the hands for which he consulted the physician spread to other parts of the body, and his fatigue and irritability increased. Because of the intense itching and the necessity for continuous scratching he was obliged to stop work. Months of care from many physicians, including leading dermatologists, at home and in hospitals did not prevent the spreading of the disturbance or ease the suffering. He began to talk of suicide and was referred for psychiatric treatment.

On admission he showed a generalized maculopapular rash, pigmented areas and extensive lesions due to scratching. Other results of physical examination were normal except for a persistent eosinophilia and a cutaneous sensitivity to cheese. Months of hospitalization, continuous baths and education to substitute more normal activities for the scratching brought about considerable improvement. By the fall of 1930 the itching was still severe enough for him to remark that "no one in the world could control that sort of itching." He was discharged on Nov. 25, 1930 as much improved but still had severe itching occasionally at night. The physicians at the clinic stated the opinion that great benefit was derived from a substitution of normal outlets, by his emancipation from the family and by a partial understanding of the psychogenic factors in the illness.

CASE 7.—S. P., a married man aged 62, was admitted to the Phipps Psychiatric Clinic in January 1933 in a depressed state and with a generalized dermatitis. Nothing was known about his antecedents except that his father suffered for years from a cutaneous eruption. The patient remarked, "It got my father, and it will get me." The patient's only daughter had suffered from repeated attacks of a dermatitis.

He was a highly successful business man. After six months in college, at the age of 17 he began work at the machinist trade. While still young he invented a special ladder and amassed a large fortune in its marketing. At 22 years of age he married and was devoted to his wife, who humored and petted him. During the previous ten years, though still devoted to his wife, he had many clandestine affairs, because she had become an invalid with cardiac disease. He traveled much because it afforded freedom for sexual adventures. He had always been an energetic, determined and impatient person.

In childhood he feared the dark. At the age of 20 he was depressed, had crying spells for one month and was cured by a trip to Bermuda. For twenty years he had been subject to a pruritic dermatitis which always appeared in the fall and lasted several months. Trips to the tropics and sunbaths would give him relief. In recent years it had become more difficult to obtain relief in this manner. All his life he had considerable trouble with otitis media. During the two years before admission vision began to fail in the right eye, and for the previous year he had a chronic cough.

The present attack of dermatitis began during the summer. A trip to the tropics for two months almost cured the condition, but soon there was an exacerbation which by December 1 was a generalized dermatitis with "terrific" itching. In July he had been in a highly nervous state, and by Christmas he had become discouraged and deeply depressed. He lost interest in the grandson, whom he adored, and talked constantly only of himself. He remarked, "I have lost all power of concentration, even when I am feeling comfortable." He was sleepless and dreaded the nights yet continued to work part time until admission.

Physical examination revealed an obese, well developed man with a generalized dermatitis and areas of lichenification and scaling, most severe on the hands and feet. Moderate edema of the feet, a large beefy tongue and a residual otitis media of the right ear were also present. The results of laboratory studies showed a moderate secondary anemia, 14 per cent eosinophils and faint traces of sugar and albumin in the urine. The urine was normal the next day.

The patient's course in the hospital varied with the discomfort of the skin. The mood was labile with a marked erotic push. As the dermatitis improved he became outrageously complaining, petulant and abusive. He was also definitely depressed. However, it made little difference what sedatives were used; sometimes a capsule of sodium bicarbonate or a sterile hypodermic injection was effective, and sometimes neither was effective. There were excessive demands for medication and attention. At the end of two months he was much improved, slept better and began to think of home and work. On March 24 he demanded his release and was discharged as much improved. He continued to have trouble with the skin for a long time but was able to give part time attendance to his work. The impression of the physicians of the clinic was that financial worry and the dermatitis had precipitated the depression.

CASE 8.—A married man aged 60 was admitted to the sanatorium on May 12, 1938 with mental depression.

His mother was Irish; the father, Scotch and English. They died at advanced ages. The father had a depression at the age of 40. He always had a dry sensitive skin which reacted badly to the cold, as did that of practically all of the 10 siblings. During winter their skins would get rough, chapped and itchy. One brother and 2 sisters required special care during the cold months. One of the 2 sisters was asthmatic until past adolescence, and according to the patient this sister "has always been a neurasthenic and tense person, the same as I." He came from an opulent family. During adolescence he was asthmatic, had attacks of urticaria and was found to be sensitive to straw. He became free from the asthma and urticaria after he left home for college. His skin was always dry and itched during cold weather. He was an honor student at Harvard. For ten or twelve years after graduation he drank to excess. During this period he was married and divorced. He then married his present wife and stopped drinking because she was an alcoholic addict and he wanted to take care of her. He was so devoted and jealous that she divorced him, but later she remarried him under duress from

her family. He never persevered in any gainful occupation. He held a high opinion of himself and was scrupulously honest. For years he had a syphilophobia. For the five years preceding hospitalization he was impotent.

Preceding the acute phase of the illness there was a period of worry over finances and the wife's health. Shortly before admission he wrote a farewell note to his attorney suggesting that he would kill himself and his wife. He believed that he was hopelessly diabetic and that his wife had made out improper income tax returns, forged checks and misused credit and would be imprisoned. He was agitated and depressed. All results of physical examination were normal. A few weeks later he began to complain of burning and itching of his eyes. Some months later a generalized roughness and scaling of the skin were noticed. He rubbed and scratched continuously. Modification in diet, extra vitamins, internal medication, baths and soothing lotions were tried, without benefit. The condition continued unabated until April 1940, when simultaneously there appeared improvement in his mental condition and in the skin. The mental improvement kept slightly ahead of the cutaneous improvement. In July he was free from the hypochondriac delusions but was still concerned about the skin. He was discharged from the hospital in November as recovered from the depression and the dermatitis. After recovery the patient said that he suffered most from the dryness, itching and burning of the eyes, the dryness and itching of the skin and the continuous dryness in his mouth.

Cases 6, 7 and 8 are included in this presentation for instructive comparison. Cases 6 and 7, in which treatment was not given present a striking similitude to case 3, in which the patient was treated, and perhaps to cases 1 and 2—if the disease in the latter were allowed to progress or had progressed—as the onset was typical for a neurodermatitis. Case 8 shows the self-limiting nature of the cutaneous disturbance when the depression and tension are relieved, even if it takes more than two years to obtain this. It is of little moment to speculate whether insulin therapy according to this method would have been beneficial. The results in the small group of patients treated suggest that for such patients the treatment described should be given a trial.

All the patients described suffered from emotional tension and depression before their cutaneous disturbances developed. Their psychiatric grouping, according to present methods of classification, showed such radical differences that there was some speculation as to whether the cutaneous disturbance did not represent a physiologic common denominator. Most of the patients showed predetermining factors as to the nature of or the tendency toward the cutaneous disturbances. In cases 3, 5, 7 and 8 there was a definite familial tendency toward cutaneous disturbance. In cases 2, 4 and 6 there were familial personality traits. The 2 patients with dermatitis seborrhoeica also had some degree of disturbance in the rest of the skin. In case 5 the patient often complained to the physician: "I wish you would do something to relieve that numb and dead feeling in my hands, my forehead, my whole skin, my whole body." She often rubbed her arms until petechiae

were produced. In case 4 the patient often rubbed and scratched his arms, legs and chest. Neither patient had a visible rash.

It is well known that depressions diminish salivary excretion and lacrimation in patients, often leading to complaints of disturbances in taste, digestive disturbances and dryness of the mouth and to the complaint that they "cannot even cry." They are generally somewhat dehydrated yet show reluctance or an actual resistance to taking additional fluids. The evidence suggests that other integuments besides the skin are involved.

COMMENT

This paper is primarily a description of clinical experiences. The observations made thus far on the use of hypoglycemic reactions for the treatment of neurodermatitis permit some tentative conclusions: First, there is a diathesis, congenital or acquired, which predisposes these persons physiologically to neurodermatoses. While the evidence in our group of patients is not conclusive for a familial tendency, dermatologists who favor the assumption of an allergic cause for these disturbances stress the hereditary factor.

Second, these patients exhibit physiologic derangement in one or more of the following ways: gastrointestinal dysfunction, positive allergic reactions, eosinophilia and calcium imbalance. This would tend to support the theory that the condition is an allergic reaction. Yet Sulzberger and Goodman [3] stated: "Just as it has been impossible for us to produce the dermatitis by experimental exposure, so has it also been impossible to effect a cure by the removal of suspected substances." This is the experience of others, too. Patients with neurodermatitis are far less sensitive to patch tests than are patients with contact eczema —even less sensitive than normal persons. They are known to improve and even recover after change of environment or intercurrent infections. Stokes, Kulchar and Pillsbury [5] who observed that 64 per cent of their patients gave positive allergic reactions and that hay fever and vasomotor rhinitis were frequent concomitants, recognized the importance of the psychogenic factor. They suggested the presence of a "neuropathic constitution" or a "neurocirculatory lability" as the basis of the dermatitis. Van de Erve and Becker,[1c] after a study of 80 patients, felt that persons with this condition suffer from a generalized protoplasmic unrest beginning at birth. Williams,[6] studying skin temperature response to histamine, observed that normal persons have a rise in temperature on the face and neck only, while patients with atopic dermatitis have a rise in temperature at the sites of predilection. He

5. Stokes, J. H.; Kulchar, G. V., and Pillsbury, D. M.: Effects on the Skin of Emotional and Nervous States, Arch. Dermat. & Syph. **31**:470 (April) 1935.

6. Williams, D. H.: Skin Temperature Reaction to Histamine in Atopic Dermatitis, J. Invest. Dermat. **1**:119 (April) 1938.

cited evidence that the blood of these persons holds a specific substance, histamine-like in action, capable of transferring sensitivity to others. Harris [7] has demonstrated the presence of histamine or a like substance in normal skin. Horton, Brown and Roth [8] claimed that such a substance is liberated by an allergic reaction. It seems probable that neurocirculatory instability or a physiologic disturbance exciting an allergic-like reaction would increase the histamine-like substance or irritant in the skin and thus account for the dermatitis. In our cases there was a wide difference in the degree of inflammation of the skin. The impression is that an irritant deposit or excretory product in or in contact with the skin causes the dermatitis.

Third, emotional tension and mental depression profoundly affect the functioning of the autonomic nervous system. They are capable of producing trophic and pigmentary changes in the skin,[9] probably through the effect on the glands of internal secretion and/or the vasomotor system. In agitated and depressed patients it is the usual experience to find a dry sluggish skin which, in protracted illness, will show some degree of trophic change. Vascular hypotonus is also common, even to an extreme degree. The hypotonus, usually evidenced by dactylocyanosis, with severe conditions may also appear as cyanosis of the nose and cheeks. A patient with this condition was given insulin for its sedative effect, and it was noticed that the warmth and color returned during hypoglycemia.

The skin as an organ, for the purpose of this discussion, is a reliable indicator of probable dysfunction in other organs of the body, particularly the excretory glands. Diminished lacrimal and salivary function in depressed patients has been pointed out. If it is recalled that the skin and the nervous system have a common derivation, the ectoderm, and might mirror any nervous disturbance, the incidence of neurodermatitis seems relatively small, unless many minor reactions go unobserved. However, disturbances of a degree requiring special attention are determined by additional factors: the vascular supply, the condition of the integument, irritative agents or secretory products, neurocirculatory stability and special diathesis.

Goeckerman,[1b] discussing the relation of the emotions and cutaneous lesions, stated the belief that "The ordinary emotions such as anger, fear, worry and ambition when dominating mental life for a considerable

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7. Harris, K. E.: Observations upon a Histamine-like Substance in Skin Extracts, Heart **14**:161 (Dec. 21) 1927.

8. Horton, B. T.; Brown, G. E., and Roth, G. M.: Hypersensitiveness to Cold with Local and Systemic Manifestations of a Histamine-like Character, J. A. M. A. **107**:1263 (Oct. 17) 1936.

9. Eller, J. J.: Neurogenic and Psychogenic Disorders of the Skin, Bull. New York Acad. Med. **4**:423 (March) 1928.

period are probably sufficient to produce gross anatomic changes." This view is too radical for the present state of knowledge, but certainly these patients show profound physiologic imbalance. The neurodermatoses may therefore be considered "symptoms of an internal disturbance" rather than a disease entity. Nor is it necessary for these patients to have a deep depression or a severe agitated state. Stokes [10] called the neurodermatoses "a disease of civilization" and described the persons afflicted as "Leaders, drivers, tyrants and hypereffectives" who "are the subjects of a perpetual disposition to exceed the speed which their chassis will permit without rattling to pieces." Patient 8 in our series does not particularly answer to this description, but it should be recalled that he evidenced special predisposing factors and that his depression reached culmination with the collapse of an important business venture.

Repeated hypoglycemic shocks, reactions sufficient to produce visible effects, particularly relaxation and diaphoresis, constituted the only factor to cure or to relieve the symptoms of the cutaneous disturbances. Although little psychotherapy was given, except to patient 5, because most of the patients were not receptive, insulin therapy together with psychiatric guidance offers an appreciation of the emotional element in the causation while positive relief is being provided.

SUMMARY

Eight cases of neurodermatitis are described. In 5 of the cases treatment with insulin was successful. Evidence is presented to indicate a close relation between emotional tension, physiologic function and the neurodermatoses.

10. Stokes, J. H.: Functional Neuroses as Complications of Organic Disease, J. A. M. A. **105**:1007 (Sept. 28) 1935.

TOXIC EFFECTS OF SULFATHIAZOLE USED IN TREATMENT OF CHANCROIDAL INFECTION

EARL A. GLICKLICH, M.D.
AND
DAVID S. SHERMAN, M.D.
BOSTON

Since the advent of sulfanilamide (paraaminobenzenesulfonamide), rapid cures of chancroidal infection have been reported.[1] However, new derivatives of sulfanilamide with greater potency and lower toxicity are being used for various infections; one of these is sulfathiazole (2-sulfanilamidothiazole).

The toxic manifestations observed by Spink and Hansen[2] in 100 patients with various infections and treated with sulfathiazole were: dermatitis (9), nausea and vomiting (6), nitrogen retention and oliguria (1), gross hematuria (1), drug fever (2), burning and itching of the eyes (2), injection of the conjunctivas (1) and anemia (1). Long, Haviland, Edwards and Bliss[3] treated 271 patients with sulfathiazole and noted that several of them had exquisitely tender and swollen joints.

Our patient presented a number of toxic manifestations during the course of sulfathiazole therapy, including extremely tender and swollen joints with effusion. In a patient being treated for gonorrhea these observations may be confusing because of their close resemblance to symptoms of acute gonococcic arthritis.

REPORT OF A CASE

J. S., a 55 year old white man, was admitted to the Boston City Hospital on Nov. 19, 1940, with a complaint of penile ulceration and discharge. Ten weeks prior to admission and four days after sexual intercourse he began to have

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Dr. Maxwell Finland, Director of the Fourth Medical Service and Chief of the Pneumonia Service, gave valuable assistance.

From the Department of Dermatology and Syphilology (Tufts College Medical School) (Dr. William P. Boardman, Chief) and from the Fifth Medical Service (Boston University School of Medicine) (Dr. John A. Foley, Chief), Boston City Hospital.

1. Sullivan, M.: Chancroid, Am. J. Syph., Gonor. & Ven. Dis. **24**:482 (July) 1940.

2. Spink, W. W., and Hansen, A. E.: Sulfathiazole, J. A. M. A. **115**:840 (Sept. 7) 1940.

3. Long, P. H.; Haviland, J. W.; Edwards, L. B., and Bliss, E. A.: The Toxic Manifestations of Sulfanilamide and Its Derivatives, with Reference to Their Importance in Course of Therapy, J. A. M. A. **115**:364 (Aug. 3) 1940.

dysuria and a urethral discharge. Six weeks later he noted a painful penile ulceration, which was followed by tender swelling in the right inguinal region. The ulceration failed to respond to local treatment; he then sought medical advice.

His history revealed that the patient had had several attacks of urethral discharge over a period of years and that about fourteen years previously he had had a small penile lesion for a short time, which had been followed by a swelling of the inguinal nodes in the left groin. Later these became fluctuant and drained. From this course of events a diagnosis of lymphogranuloma venereum was sug-

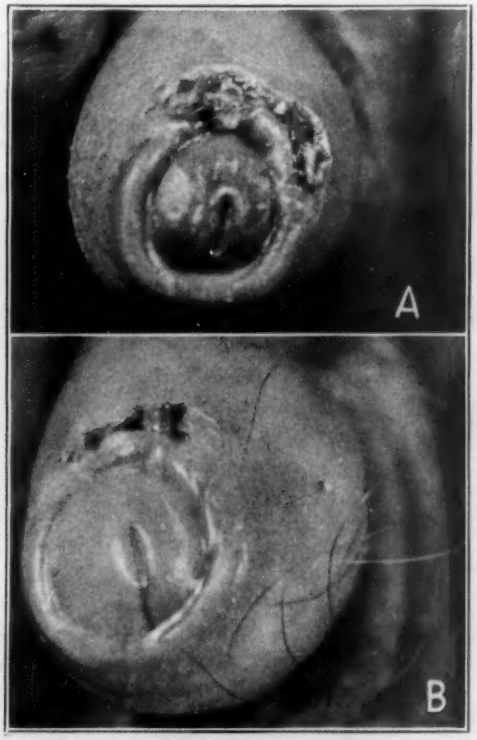

Fig. 1.—A chancroid, (*A*) on patient's admission to the hospital, Nov. 19, 1940, and (*B*) on November 27, after treatment with sulfathiazole. The ulcer is nearly healed, and the mucopurulent exudate has ceased. The phimosis remains.

gested. There were no other significant facts or record of additional venereal disease.

Physical examination revealed a moderately ill patient with a normal temperature, a pulse rate of 80, a respiratory rate of 20 and a blood pressure of 140 systolic and 80 diastolic. On the penis was an irregular shallow painful ulceration, 2.5 by 1.5 cm., which involved the dorsal surface of the prepuce and produced a paraphimosis (fig. 1 *A*). The base of the lesion was filled with a dirty grayish exudate. The lesion was painful, tender and moderately indurated and

bled easily. There was a mucopurulent discharge from the urethra and from between the mucosal surfaces of the ventral portion of the prepuce and glans. In the right inguinal region there were several moderately enlarged painful nodes with an erythema of the surrounding skin. In the left inguinal region there was an old scar, 2½ inches (6 cm.) in length, presumably the result of the inguinal adenitis that occurred fourteen years previously. The remainder of the physical examination gave negative results.

Examination of the blood showed 72 per cent hemoglobin (Sahli); the white blood cell count was 9,800 per cubic millimeter. The urine showed 10 to 15 white blood cells per high power field but otherwise was normal. Repeated dark field examinations of material obtained from the penile ulcer failed to show Spirochaeta pallida. Repeated Hinton tests of the blood gave negative reactions. A Gram stain of the urethral discharge revealed many polymorphonuclear leukocytes and Gram-negative extracellular diplococci. A Frei test with human antigen from a patient known to have lymphogranuloma venereum showed a strongly positive delayed reaction in forty-eight hours. Tamura's test with goat antiserum specific for lymphogranuloma venereum gave an erythema-edema reaction, 3 by 2.5 cm., in twenty minutes.[4] A test with chancroidal antigen (Lederle) gave a delayed positive reaction in forty-eight hours. The diagnoses were: (1) chancroidal infection with penile ulceration and right inguinal adenitis, (2) chronic gonorrheal urethritis and (3) healed lymphogranuloma venereum.

On the day after admission the patient was given 6 Gm. of sulfathiazole daily by mouth. On the fourth day in the hospital his temperature rose to 100 F. and fluctuated between 99.8 and 101 F. for the next few days. On the fifth day there developed malaise, marked prostration, nausea, headache, burning and itching of the eyes and a maculopapular eruption on the extremities, particularly above the knees and elbows. Administration of the drug was ordered to be discontinued immediately, but through an error it was continued for an additional two days. On the patient's sixth and seventh days in the hospital the scleras and conjunctivas became injected and the burning and itching continued. The maculopapular eruption became more pronounced, and an erythema-nodosum-like type of rash appeared on the extremities. The joints, particularly the knees and elbows, became tender and swollen and presented the signs of an effusion into the joint spaces. Aspiration of the left knee yielded 50 cc. of a clear serous fluid which contained a few polymorphonuclear leukocytes per high power field. Culture of this fluid showed it was sterile; the sulfathiazole concentration was 2.7 mg. per hundred cubic centimeters of the drug in a free state and 4.1 mg. total. At this time the hemoglobin was 100 per cent and the white blood cell count was 24,000. The sulfathiazole level in the blood was 6.9 mg. per hundred cubic centimeters in a free state and 8.6 mg. total. The urine was normal.

During the seven days of the sulfathiazole therapy the patient's discharge had ceased, the chancroidal ulcer had almost healed (fig. 1 *B*) and the nodes were subsiding.

On December 5, after one week, the patient was again given sulfathiazole under strict observation, 1 Gm. of the drug every six hours. After the third dose his temperature rose to 102 F. and he started to complain of malaise,

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4. Tamura, J.: Rapid Presumptive Diagnosis of Lymphogranuloma Inguinale, J. Lab. & Clin. Med. **21**:842 (May) 1936.

weakness, burning and smarting of the eyes, headache, nausea and abdominal cramps. After the fourth dose there developed a moderate injection of the scleras and conjunctivas (fig. 2), tender swollen knee and elbow joints and a maculopapular eruption on the extremities. On December 6 the hemoglobin amounted to 84 per cent; the white blood cell count was 11,700, and the sulfathiazole content of the blood was 3.9 mg. per hundred cubic centimeters in a free state and 3.9 mg. total. The urine again was normal.

On the return of these symptoms administration of the drug was immediately stopped and fluids were administered. Five hours after administration of the drug was discontinued, the sulfathiazole level in the blood dropped from 3.9 mg. to 1.8 mg. per hundred cubic centimeters. In twelve hours the patient was practically asymptomatic. He was discharged from the hospital on the twenty-fourth day with the chancroidal lesion completely healed and the gonorrheal urethritis clinically cured.

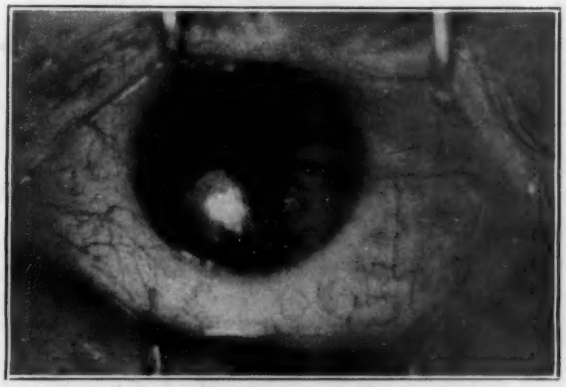


Fig. 2.—The left eye on December 5, showing moderately injected sclera (episcleritis), a toxic manifestation due to sulfathiazole.

COMMENT

In the treatment of various infections sulfanilamide and its derivatives are being used extensively today. It is imperative to know the toxic manifestations that may occur during the course of therapy with these drugs, as serious complications are apt to develop. It must be borne in mind that besides careful clinical observation a constant check must be maintained on the leukocyte count, the hemoglobin and the urine.

Our patient with chancroidal infection and gonorrheal urethritis was given sulfathiazole and made a good therapeutic response. However, during the course of administration of the drug many toxic symptoms were observed, such as headache, malaise, marked prostration, nausea, fever, burning and itching of the eyes, injection of the scleras and con-

junctivas, dermatitis and exquisitely tender and swollen joints with effusion. More serious complications, such as leukopenia, hematuria or anuria, were not observed.

Of interest is the early and severe recurrence of toxic manifestations on readministration of the same drug. According to Long, Haviland, Edwards and Bliss,[3] recurrence of toxic manifestations due to sulfanilamide or a derivative may follow the administration either of a second dose of the same drug or of another of the related compounds.

In the present case the tenderness, swelling and effusion of the joints represent toxic manifestations rather than a gonococcic arthritis, since (1) the symptoms recurred on the readministration of the drug, (2) the synovial fluid was clear, serous and sterile, and (3) the synovial fluid contained sulfathiazole.

LYMPHOGRANULOMA VENEREUM

REPORT OF AN UNUSUAL EXAMPLE INVOLVING THE LYMPHATIC GLANDS OF THE BUTTOCK AND ADJACENT REGIONS

MAURICE J. COSTELLO, M.D.
NEW YORK
AND
GERARD DE OREO, M.D.
CLEVELAND

Clinical aspects of lymphogranuloma venereum are well known, including the extensive fistulous process which involves the female perineum, frequently associated with rectal stricture (esthiomene). The counterpart of this is seldom seen in men. The reason the rectum is more frequently spared in men is readily explained by the difference in lymph drainage; why involvement of lymphatic glands other than those of the inguinal region occurs, unless the primary lesion is extragenital,[1] is less clearly understood. Cole [2] has pointed out that lymphogranuloma venereum "is a disease of the lymph channels and of the nodes." The inguinal nodes receive lymph channels not only from the membranous urethra, penis and scrotum but also from the area over the fascia lata and from the gluteal region. In view of this it is surprising that most infections in the male are more or less confined to the inguinal region and do not spread to the surrounding tissues.

Because of the apparent rarity of widespread lymphogranuloma venereum in men this case is reported.

REPORT OF CASE

H. B., a Negro seaman aged 35, was admitted to Bellevue Hospital on Oct. 16, 1940 and gave a history of having had gonorrhea. In January 1937 he had a right inguinal bubo, which enlarged to the size of a lemon. It became somewhat painful and fluctuant and for weeks discharged pus from several openings. He had had an evanescent vesicular penile lesion three weeks prior to the appearance of the bubo.

From the Department of Dermatology and Syphilology, New York University College of Medicine, and the Department of Dermatology and Syphilology, Third Medical (New York University) Division, Bellevue Hospital, service of Frank C. Combes, M.D.

1. Costello, M. J., and Cohen, J. A.: Lymphogranuloma Venereum Affecting Simultaneously Cervical and Inguinal Lymphatic Glands, Arch. Dermat. & Syph. **41**:557-561 (March) 1940.

2. Cole, H. N.: Lymphogranuloma Inguinale, the Fourth Venereal Disease: Its Relation to Stricture of the Rectum, J. A. M. A. **101**:1069-1076 (Sept. 30) 1933.

Fig. 1.—Lymphogranuloma venereum involving the suprapubic and inguinal regions. *M* indicates a positive reaction with necrosis to an intradermal injection of the mouse brain type of Frei antigen. *Ch* indicates a positive reaction to an intradermal injection of the chick embryo type of Frei antigen.

Fig. 2.—Lymphogranuloma venereum involving the buttock, thigh and adjacent regions.

In May 1938 a swelling the size of a plum developed on the right buttock; it lasted eight weeks and spontaneously discharged a purulent material. Several months later a moderately painful hard swelling the size of a grapefruit occurred in the region of the right hip. In August 1940 this mass discharged pus through a number of fistulous openings which have remained to the time of writing.

Examination showed in the right inguinal suprapubic and genitocrural regions and on the right buttock and right hip a massive tense shiny hyperpigmented induration, measuring 15 by 20 cm., with multiple fistulous openings which caused dimpling of the skin. The affected lymphatic glands were matted together, and when this area was palpated a seropurulent material came from the fistulous openings. The Wassermann reaction of the blood was repeatedly negative, but the Kahn reaction was 2 plus. The intracutaneous and intravenous injections of Frei antigen of the mouse brain and chick embryo types gave positive reactions. An intracutaneous test with Ducrey vaccine gave negative results. The intracutaneous injection of old tuberculin in a dilution of 1:10,000 elicited a positive reaction, and in a dilution of 1:1,000,000, a negative reaction. Attempts to aspirate pus from the affected areas were unsuccessful. A human antigen made from one of the affected excised lymphatic glands, for the purpose of performing inverted Frei tests by studying the cutaneous reactions in proved cases of lymphogranuloma venereum and in controls, was contaminated.

Roentgenograms of the lungs showed no pulmonary tuberculosis, and those taken of the long bones and of the pelvis showed no pathologic process.

Histologic examination of tissue from the aforementioned area of the right hip showed acute suppurative and inflammatory tissue, with hyperplastic squamous epithelium, but no histologic signs of malignancy or tuberculosis.

Chronic chancroid, scrofuloderma, actinomycosis, blastomycosis and epithelioma were considered in differential diagnosis. The first four were ruled out after careful search for the characteristic organism and on clinical appearance. In addition, the Ito-Reenstierna intracutaneous test for chancroid gave negative results. The possibility of a tuberculous process was more difficult to eliminate. The absence of tubercle bacilli in smears and guinea pig inoculations, in addition to normal roentgenograms of the pelvis and lungs, supported the belief that the disease was not due to tuberculosis.

To confirm the diagnosis of lymphogranuloma venereum there were typical inguinal lymphadenopathy, a positive reaction to the intradermal injection of Frei antigen and a histologic picture which showed many of the changes usually seen in this disease.

SUMMARY

A case of lymphogranuloma venereum involving the right inguinal lymphatic glands with extension to the lymphatic glands of the suprapubic and genitocrural regions and the right buttock and right hip is reported.

140 East Fifty-Fourth Street, New York.

3164 Meadowbrook Avenue, Cleveland.

PITYRIASIS ROSEA WITH LESIONS ON MUCOUS MEMBRANES

JACQUES P. GUEQUIERRE, M.D.
AND
CARROLL S. WRIGHT, M.D.
PHILADELPHIA

Our interest in lesions on mucous membranes in patients with pityriasis rosea began the first time we saw a patient with such a lesion, on Jan. 21, 1938. The patient we saw at that time and several others were subsequently presented before the Philadelphia Dermatological Society.[1]

During the discussion of the first patient the diagnosis was disputed, but no other tenable diagnosis was offered. No one remembered at this time that Butterworth [2] had previously cited Hazen and Wile as having noted involvement of mucous membranes in pityriasis rosea. Pick [3] also cited Hazen, and Andrews [4] cited Hazen and Wile.

In a personal communication from Dr. Wile in 1938 he stated that he had seen occasional lesions of pityriasis rosea in the mouth. In one of his patients on whose body vesicular lesions were present, the same kind of lesions were present in the mouth and in the vulva. In 1 or 2 cases he had seen grayish lesions with an annular configuration not only on the buccal mucosa but also, on one occasion, on the tongue.

Rosen [5] also observed a patient with a lesion on the tongue and stated that the lesion had cleared up with the regression of the cutaneous eruption. This parallel regression was also seen in our series of cases.

To date we have observed 14 patients with pityriasis rosea who had lesions on the buccal mucosa but not on the tongue or nasal or vaginal mucosa. Four were males and 10 were females. Three were children;

From the Department of Dermatology and Syphilology, Temple University School of Medicine.

1. Guequierre, J. P.: Pityriasis Rosea, Associated with Oral Lesions, Arch. Dermat. & Syph. **38**:159 (July); 262 (Aug.) 1938.

2. Butterworth, T.: Pityriasis Rosea: Clinical Varieties and Etiology, Pennsylvania M. J. **38**:402 (March) 1935.

3. Pick, E.: Pityriasis rosea, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1928, vol. 7, pt. 1.

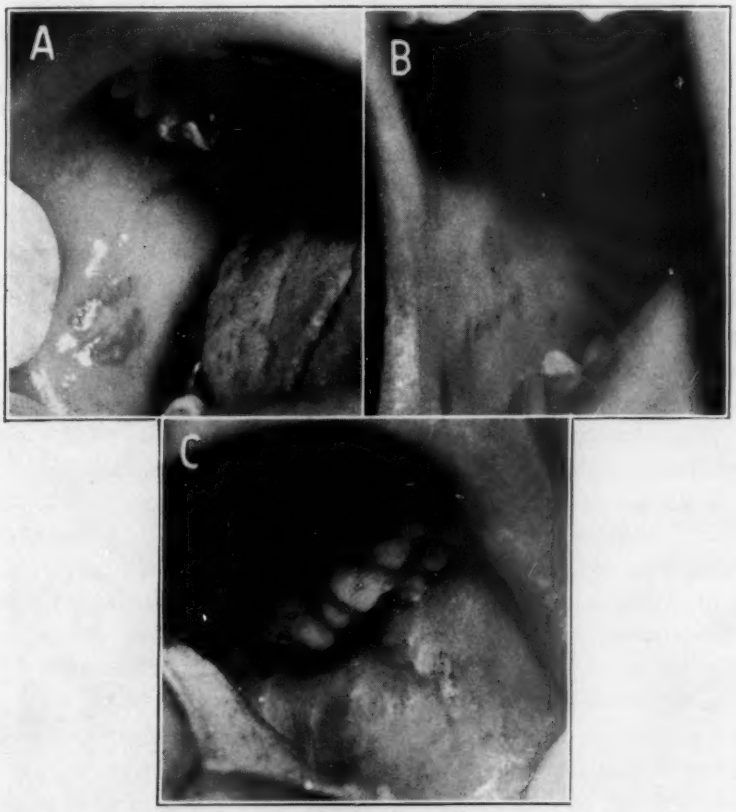
4. Andrews, G. C.: Diseases of the Skin, ed. 2, Philadelphia, W. B. Saunders Company, 1938, p. 221.

5. Rosen, I., in discussion on Sobel, N.: Pityriasis Rosea with Vesicles, Including the Face, Arch. Dermat. & Syph. **38**:466 (Sept.) 1938.

3 were in their late teens, and 8 were adults. Only 1 patient was aware of the oral lesion, and none complained of any pain, burning or discomfort.

REPORT OF CASES

Our first patient, C. S., a woman aged 25 (fig., *A*), was referred to us from the medical clinic because of an eruption associated with gastrointestinal distress and inability to retain food. This eruption had appeared three weeks previously accompanied by fever and vomiting. Treatment was started, and she returned



Lesions on the mucous membranes in patients with pityriasis rosea. *A*, an erythematous segmented or incomplete annular lesion with a definitely raised border, clear center and a ruffled scaling or desquamation rolled up posteriorly on the right buccal mucosa. *B*, lesion on the right buccal mucosa of the same type as in (*A*) but not as pronounced. *C*, a punctate hemorrhagic lesion on the left buccal mucosa.

to the clinic three days later with a regression of the oral lesion paralleling that of the cutaneous lesions. Two weeks later she was greatly improved, but the site of the oral lesion was still evident. At this time two new lesions had developed on both arms. After one month she again returned to the clinic, with no evidence of her previous eruption.

Our next patient, J. W., a girl aged 18 (fig., *B*), was seen on Feb. 15, 1938 with an eruption of three weeks' duration. After the institution of mild therapy both oral and cutaneous lesions cleared rapidly.

J. Y., a boy aged 16 (fig., *C*), was observed with a punctate hemorrhagic lesion on the left buccal mucosa and a segmented lesion on the right. This was the only time we saw a punctate hemorrhagic lesion.

E. E., a woman aged 29, being treated for acne vulgaris, was seen on March 24, 1938 with an early stage of pityriasis rosea and a small annular erythematous lesion on the right buccal mucosa. Unlike the conditions in our previous patients, this lesion was not segmented, nor did it have a light grayish desquamation. Our interest in this kind of lesion was explained to the patient, and she agreed to use no treatment and to return for observation three times a week. Involution of both cutaneous and oral lesions was slow. On April 14 the oral lesion had cleared, leaving a slight depigmentation. However, there was a similar lesion on the right inner part of the upper gum just above the second molar, which cleared the following week. This lesion was the only one on the gum in our series.

E. H., aged 44, was seen on Nov. 14, 1939 with an eruption of one week's duration. On the left buccal mucosa there was an annular erythematous lesion without desquamation. Under treatment both cutaneous and oral lesions underwent involution rapidly in four days. A week later the oral lesion cleared completely and the cutaneous lesions were faint.

COMMENT

To date we have seen the following types of oral lesions: (1) a round erythematous macule without a grayish desquamation situated on either buccal mucosa in the middle or anterior part; (2) the same kind of lesion with a grayish ruffled desquamation (this, we believe, is a variation of the first form of lesion; both types were slightly elevated in 2 patients); (3) an erythematous segmented or incomplete annular lesion with a definitely raised border, a clear center and a ruffled scaling or desquamation rolled up posteriorly; (4) an annular punctate hemorrhagic lesion on the left buccal mucosa in a boy, who also presented on the right side a lesion like the third one described, and (5) a large erythematous plaque covering the entire palate.

We are not sure about classifying the fifth type as a mucous membranous lesion of pityriasis rosea. The patient was a middle-aged woman wearing an upper plate. Lesions in other patients were not in contact with teeth or plates. However, this lesion, like the others, did not produce any symptoms, and the patient was unaware of its presence. In our experience, irritation from dentures is definitely painful. We were unable to find the primitive plaque in this patient, and considering how rarely the plaque is not in evidence, we are left with the unanswered question as to whether the primitive plaque may appear on the mucous membrane.

SUMMARY

We have observed 14 patients in the past three years with pityriasis rosea associated with lesions on mucous membranes. In all of these patients the buccal mucosa was involved. We did not find any lesions on the tongue or vulva, nor did we observe vesicular lesions. It is possible that the lesions with the ruffled desquamation may have been vesicular before they came under our observation. We have no explanation at present for these lesions, but it is interesting to find pityriasis rosea as another member of the papulosquamous diseases of the skin presenting at times lesions of mucous membranes.

EARLY ERYTHEMA AND PIGMENTATION FROM SUPERFICIAL ROENTGEN THERAPY

L. H. ROSENTHAL, M.D.
DETROIT

The erythema dose is defined as that amount of roentgen radiation which when given to a small area of skin on the inner surface of the thigh or forearm will produce a faint erythema in five to seven days. This erythema eventuates in pigmentation of varying intensity and lasts for a few weeks or months. Occasionally the erythema disappears without a secondary pigmentation. In recent years the tendency to express the quantity of radiation in roentgen units (r) has greatly superseded the use of the term erythema dose. However, it is advised that both physical and biologic methods be employed in standardizing the output of an x-ray apparatus. Most dermatologists who utilize superficial roentgen therapy machines in the range of 80 to 120 kilovolts regard the erythema dose as between 300 and 400 r.

During the past year when this dual standardization was attempted on a recently installed x-ray apparatus, the biologic results of irradiation differed from what one expected.

Twenty-four subjects were irradiated with doses of 150 r on the flexor surface of one forearm and 300 r on the other forearm. The group was composed of 11 women whose ages ranged from 27 to 54 and 13 men whose ages ranged from 14 to 70. Two women and 1 man were fair, the remainder being of medium or dark complexion. The machine used was mechanically rectified; the tube was oil immersed and water cooled and operated at 5 milliamperes and 100 kilovolts. No filtration was used other than the inherent filtration of the tube. The radiation was delivered through an opening 1 inch (2.5 cm.) square in a sheet of rubber lead.

In any discussion of minimal effects of roentgen rays, one difficulty which has been mentioned by many investigators is the differentiation between slight pigmentation and slight erythema. A few observers were asked to name the color of cutaneous reactions, and what some called brown others called red. In this study, all reactions, whether light brown or red, were considered erythematous. Reactions which were definitely dark (dark brown, gray or black) were termed pigmentations.

Of the 24 subjects tested, 12 were observed daily for the first few days following irradiation and at weekly intervals thereafter. The

From the Department of Dermatology and Syphilology, North End Clinic.

remainder were observed at longer intervals. The first unusual phenomenon noted was the early onset of erythema. Of the 12 subjects irradiated with 300 r and observed daily, 11 had evident erythematous reactions within twenty-four hours. In 9 the erythema became visible in six to eight hours; in 2 it was visible within four hours. The erythema gradually became more evident, reached its maximum in twelve to sixteen hours and then gradually faded. In 1 subject the erythema reached its maximum in twenty-four hours before proceeding to fade.

From this point on the course of the reaction varied. In 8 subjects the erythema faded decidedly and reappeared on the third day as a slight pigmentation, which gradually increased in intensity. In 3 subjects (those with fair complexions) the erythema faded on the second day and then reappeared, lasting about two weeks before becoming pigmentation. In the twelfth subject no erythema resulted from the 300 r dose but pigmentation was noted about the seventh day. This gradually deepened during the next two weeks.

An early erythematous reaction was described by MacKee[1] as unusual and was generally regarded to be an "electric" phenomenon or an indication of a fairly large dose. For example, third degree reactions were described with an early onset. Andrews[2] likewise failed to describe any normal early response to roentgen irradiation.

The early erythema resulting from superficial irradiation was described by Miescher[3] in 1924. Goldsmith[4] recently queried why no mention of early erythema from superficial irradiation was made in dermatologic literature. Pohle,[5] working with a capillary microscope, observed that capillary dilatation and erythema resulted four hours after ½ erythema dose was given. The early erythema produced in the subjects tested in this study was similar to that described by these investigators.

The average duration of pigmentation resulting from 300 r was six weeks. In 1 subject the pigmentation did not disappear for three months. No desquamation was noted at any time.

A second unusual observation was that biologic changes occurred with doses of much less than 300 r. Of the 12 persons who received 150 r and were observed daily, the aforementioned early erythema developed in 9, but the reactions were much less intense than those produced with 300 r. In 3 subjects, with fair complexions, the erythema

1. MacKee, G. M.: X-Rays and Radium in the Treatment of Diseases of the Skin, Philadelphia, Lea & Febiger, 1938.

2. Andrews, G. C.: Diseases of the Skin, Philadelphia, W. B. Saunders Company, 1932.

3. Miescher, G.: Strahlentherapie **16**:333, 1924.

4. Goldsmith, W. N.: Brit. J. Dermat. **51**:126 (March) 1939.

5. Pohle, A. E.: Radiology **6**:236 (March) 1926.

was decided, and in 6 it was faintly visible. In all 9 there was eventual pigmentation, which was not intense. In 2 others erythema did not result but pigmentation became evident in one week. Of the 12 subjects not seen for one week after irradiation, pigmentation took place in 10. Of the entire group of 24, pigmentation resulted in 21 (85 per cent) when 150 r was given. This figure is higher than that reported by MacKee and Eller[6] in 1926. They stated that 50 per cent of their patients treated with 150 r showed pigmentation at the site of irradiation.

COMMENT

The early onset of erythema with doses of roentgen rays as low as 75 r when applied to a large area is not a clinical rarity. Frequently, patients have stated that on the evening of their previous treatment a flush was noted similar to a sunburn. These patients, I now believe, were more sensitive to roentgen rays than normal persons and had experienced the early erythema of superficial irradiation. This reaction is not the erythema which is a possible forerunner of telangiectasia, atrophy and other late sequelae of roentgen irradiation.

In regard to pigmentation, clinically one sees many lesions treated with 150 r which become pigmented and remain so for weeks. In view of the high number (85 per cent) of persons who showed pigmentation in this study with 150 r, it is well to remember this possibility. Patients subjected to such doses on conspicuous parts of the skin should be forewarned of this possibility before treatment is given. Even with doses of 75 r weekly, as in the treatment of acne vulgaris, a high percentage of patients will show diffuse pigmentation or freckling.

CONCLUSIONS

1. There is an early effect of superficial roentgen ray irradiation in doses of 150 r or more which appears as an erythema within four to eight hours after irradiation; it reaches its maximum in about fourteen hours and then fades.

2. Pigmentation to a greater or less degree is produced in 85 per cent of patients when 150 r is applied to the skin of the forearm.

770 Maccabees Building.

6. MacKee, G. M., and Eller, J. J.: Variations of Cutaneous Toleration for Roentgen Rays, J. A. M. A. **87**:1533 (Nov. 6) 1926.

Clinical Notes

CONTACT DERMATITIS DUE TO NAIL LACQUER

IRVING N. HOLTZMAN, M.D., BROOKLYN

The following cases are reported to emphasize two factors: (1) the localization of certain types of contact dermatitis and (2) the fallacies inherent in "experimental and clinical" testing of cosmetic products to determine their sensitizing potency.

REPORT OF CASES

CASE 1.—A 47 year old housewife was first seen on Dec. 7, 1940, with a complaint of an itching eruption on the right side of the neck, extending up to the jaw and down to the right shoulder. This eruption was at first mild, beginning six months prior to the examination, and became severe in the last two weeks before examination.

The patient had a fair complexion. On the right side of the lower jaw and extending down the right side of the neck and shoulder was a diffuse angry-looking erythema, slightly infiltrated in spots and surmounted by a fine scale; in some areas the skin was actually denuded, apparently as a result of scratching.

During the examination my attention was unconsciously drawn to the patient's unusually vivid nail polish. On further questioning, she stated that she had this polish applied by a beautician once a week and also that she always slept on her side with her right hand folded under the right side of her face and neck. Because of this suggestive history, a patch test with the lacquer used was made on the back. The patient had to remove the patch in four hours because of intense itching. Examination forty-eight hours later disclosed a vesiculoerythematous reaction beginning at the site of the patch and spreading fanwise, involving almost the entire upper part of her back.

When the polish was removed from the nails, the eruption subsided completely in two weeks.

CASE 2.—A 23 year old white woman was first seen on Nov. 25, 1940, with an eruption on her face of six weeks' duration. This involved the eyes, cheeks, chin and both sides of the neck. The appearance was typical of contact dermatitis. Patch tests were made with the various cosmetics used on her face, as well as with nail lacquer. Only the lacquer caused a positive reaction. As soon as the polish was removed an immediate improvement set in. Complete clinical cure was effected in one week. She reapplied the nail polish on December 10, and the next morning the eruption reappeared on her face. On removal of the polish, the eruption subsided in two days. The patient stated that she usually slept with her hands under her face.

From the Brooklyn Cancer Institute, Irving N. Holtzman, M.D., Associate Dermatologist.

COMMENT

A recent investigation[1] by means of "animal and human testing" of various constituents of nail lacquers was followed by the conclusion that the sensitizing potency of the various constituents was practically negligible. Contrarily, a recent clinical report[2] described as characteristic the occurrence of dermatitis on the face and neck from nocturnal contact with these lacquers. Many nail lacquers contain an ester gum which has been shown recently[3] to be a potent skin sensitizer. These cases are reported to emphasize the primary importance of clinical observation in the study of contact dermatitis in evaluation of sensitizing potency of cosmetics as well as of other external applicants.

NOTE.—Since this article was submitted for publication I have observed 5 additional cases, in all of which patch tests gave positive reactions. Also, several colleagues have commented that they recently have seen similar eruptions in their practice. Also, a report[4] of 5 cases has recently been published. All this would seem to indicate that some new ingredient of high sensitizing potency has been included in the manufacture of these substances.

135 Eastern Parkway.

1. Silver, H., and Chiego, B.: Nails and Nail Changes, J. Invest. Dermat. **2**:361, 1939.

2. Hollander, L.: Nail Lacquer Dermatitis, J. A. M. A. **115**:1714 (Nov. 16) 1940.

3. Schwartz, L., and others: An Outbreak of Dermatitis from New Resin Fabric Finishes, J. A. M. A. **115**:906 (Sept. 14) 1940.

4. Ellis, F. A., and Kirby-Smith, H.: Contact Dermatitis Due to Nail Polish, J. A. M. A. **116**:45 (Jan. 4) 1941.

PITYRIASIS ROSEA FOLLOWING AN INJECTION OF ANTIDIPHTHERITIC VACCINE

Report of a Case

DR. HENRYK REISS, EDINBURGH, SCOTLAND

A. A., a girl 3½ years old, came to the Royal Infirmary on Nov. 8, 1940. According to the mother, an exanthem had appeared on the trunk six days previously and still persisted. This eruption had appeared ten days after diphtheria toxin-antitoxin had been injected.

A spotted exanthem was found on the trunk, which in some places resembled a papulodesquamative exanthem. No exanthem was found either on the face or on the extremities. There was no other eruption or any trace on the spot where the injection had been made. The teeth were in good condition.

The eruption was typically that of pityriasis rosea, although the characteristic *plaque primitive* was not found in this case. Such plaques are usually obvious

From the Department of Diseases of the Skin, the Royal Infirmary.

Dr. Reiss was formerly associated with the Department of Dermatology, St. Lazar Hospital, Cracow, Poland.

when this syndrome is the result of an external infection, and the generalized eruption shows the typical characteristics of a secondary eruption (Brocq), being produced by dispersion of the toxic matter from the original focus. Many dermatologists consider pityriasis rosea not as a separate entity but as a syndrome dependent on an individual cutaneous reaction to a variety of morbid stimuli.

It is well known that the picture described by Gibert may be more or less typical and also present forms verging on *dermatoses psoriasiformes.* Taking this as the basis, one may postulate that in such cases it is not a question of a definite morbid toxin being the etiologic factor but rather that of an accidental toxin, most frequently a streptococcus or a fungus, causing the pityriasis rosea type of reaction in persons particularly predisposed. It is well known that pityriasis rosea is often the result of an oral infection in persons with bad teeth or after tonsillitis, but in such cases the "plaque primitive" is absent. Thus the pathogenesis and not the etiology is the principal factor.

In the present case there are two hypotheses: First, the pityriasis rosea may have appeared independent of the injection; second, it may have been directly or indirectly connected with it. In the second instance, and this seems the more probable, one of two actions may have occurred: (*a*) the eruption may have developed as a direct inflammatory reaction to the vaccine in the blood stream and thus have been a toxicoderma manifested as pityriasis rosea, or (*b*) the vaccine may have played the role of a biotropic factor. The latter proposition is the more likely, since the condition appeared about nine days after injection of the vaccine (*erythème du neuvième jour).* The possibility of a direct biotropic action of the injection on the morbid pathogenic agent could be admitted if in this case there had existed a primary focus of inflammation, e. g., in the skin, or, if one admits the possibility of a stimulating action on the micro-organisms which are present in the mouth—on the tonsils or in carious teeth. If, on the other hand, the biotropic action is indirect, it concerns the influence of the vaccine on the organism, and more especially on the skin, so as to cause hypersensitivity or intolerance to the surrounding microbes, with a resulting cutaneous manifestation in the form of pityriasis rosea. It is an important fact that the exanthem occurred after an injection of vaccine, and on account of this one would be inclined to think that its appearance was influenced by a toxin acting from within. It is, nevertheless, doubtful whether the exanthem can be an immediate reaction to the toxin, as it is not a typical reaction to diphtheritic toxin; moreover—and this is of special note—the ten day incubation period rather argues against the idea of a toxicoderma. Also, the eruption was absent on the extremities, which should have been covered with an evenly distributed eruption if a specific toxin had been the cause. The literature contains no record of pityriasis rosea appearing in the course of contact with diphtheria toxin. If, then, one is prepared to attribute the cause of the eruption to the action of an internal toxic factor, one would think rather of an indirect biotropic action, i. e., a toxic action on the skin facilitating the inoculation of microbes already present on its surface. In dermatologic literature there are several such instances of indirect biotropism, such as the intolerance to drugs containing iodide administered orally and certain symptoms of intolerance to arsphenamine.

I suggest that in the pathogenesis of pityriasis rosea in the case under discussion the diphtheria toxin-antitoxin played the part of an indirect biotropic agent and not a specific one and that external infection thereafter was responsible for the development of the eruption.

ERYTHEMA INDURATUM (VASCULAR TYPE)

RUDOLPH BOENKE, M.D., LONG ISLAND CITY, N. Y.

This report is prompted by the rapid healing of a group of indolent ulcers after the application of bacterial antigen ointment.[1]

Mrs. A., 62 years old, the wife of a minister, well nourished and living under good hygienic conditions, during the past three years has had several attacks of closely grouped small areas of inflammation followed by indolent ulceration and finally by healing with scar formation.

In June 1940 a number of small inflamed lesions developed among some scars on the anterior surface of the upper third of her left leg. She was ordered to bed by her attending physician, and various ointments and wet dressings were applied, but the lesions broke down, becoming indolent ulcers, and healing was not obtained.

On November 26 I was requested to attend her. On examination she presented seven almost cup-shaped ulcers on the anterior surface of the upper third of her left leg, varying in size from 0.5 to 1 cm. Each was surrounded by a broad zone of noninfiltrated inflammation; the bases were covered by necrotic material, and there was a serosanguinous discharge. Two of the ulcers were closely adjacent, being separated by a thin bridge of undermined skin. There were also two more recently developed lesions beyond but close to the area involved by the ulcers; these were inflammatory red, deeper in color at the centers and lighter at the borders. Nodulation at the centers could not be felt.

On the upper thirds of the legs were old depressed scars, some circular and some irregular in shape, from the coalescence of former lesions.

Treatment consisted in the continued elevation of the leg and the application twice daily of a bacterial antigen ointment. The leg was left uncovered during the day, and a light sterile gauze dressing was applied at night.

Within three days there was a noticeable lessening of the inflammatory areola around each ulcer, and there was some lessening in the amount of the discharge. A week later the bases looked cleaner, and on December 13 granulations were present in all the ulcers. On December 27 all but one of the ulcers were healed, and a week later all were healed. Depressed scars with shelving borders resulted.

The two most recent inflammatory lesions that were present at the first examination gradually disappeared without breaking down into ulcers.

NOTE.—The patient was again seen on Feb. 24, 1941. Two new ulcerations were present in the area previously affected; these were given the same treatment and were completely healed by March 24. A tuberculin patch test was done on the inner side of the left arm (Vollmer) and resulted in strongly positive reactions; the central control patch showed no reaction. Inflammation was still present at the sites of the positive reactions two weeks later but was subsiding.

33-08 Thirtieth Avenue.

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1. The ointment used was antipeol ointment (Bio-Therapeutic Laboratories, Inc., East Orange, N. J.). It consists of bacterial filtrates of Staphylococcus aureus, Staphylococcus albus, Staphylococcus citreus, Streptococcus pyogenes, Streptococcus viridans, Streptococcus haemolyticus and Bacillus pyocyaneus in a hydrous wool fat base containing zinc oxide, ichthammol and sodium borate.

Correspondence

"HISTIOCYTOMA CUTIS" VERSUS "DERMATOFIBROMA"

To the Editor:—In their paper on "Dermatofibroma" (ARCH. DERMAT. & SYPH. **43**:498 [March] 1941), Stecker and Robinson take exception to our use of the term "histiocytoma cutis" to designate cutaneous tumors of the type they describe. It is their opinion "that these histiocytes are secondary members of the group, that they have wandered into the tumor to pick up the lipoids from the degenerated cells or iron-containing pigment from small hemorrhages into the tumor itself and that the tumor is not a histiocytoma."

A careful reading of our paper (Senear, F. E., and Caro, M. R.: Histiocytoma Cutis, ARCH. DERMAT. & SYPH. **33**:209 [Feb.] 1936) would have shown that priority for the belief in the histiocytic origin of these tumors belongs to Woringer (Woringer, F.: Histiocytoma of the Leg, *Bull. Soc. franç. de dermat. et syph.* **38**:1401, 1931) and to other members of the Strasbourg group of dermatologists, whose observations our work merely confirmed and extended. Furthermore, the iron-containing pigment seen in our specimens was not carried by histiocytes that "wandered into the tumor to pick up . . . pigment from small hemorrhages." It was rather the product of vital staining of the tumor with colloidal iron which had been injected two days prior to the excision of the tissue for histologic examination. By means of vital staining with a solution of saccharated ferric oxide, particles of which were taken up by the component cells of the tumor, we proved that these cells were histiocytes rather than fibroblasts, for only histiocytes have the biologic function of taking up colloids. In many of our cases the histiocytic nature of the tumors was also indicated by the storing of lipoids within the cells, as demonstrated by the Sudan III stain and by polariscopic examination.

There was considerable variation in the histologic appearance of the nodules in our cases. In some the lesions were composed almost entirely of a densely packed cellular mass, the collagen fibers being present only at the periphery. In other lesions there was a preponderance of densely packed collagen fibers with relatively few cells remaining interspersed between the fibers. Within the cells of even these fibrous nodules, however, many sudanophilic lipoid droplets were demonstrated, and on examination with the polariscope a few doubly refracting crystals were observed. On the basis of our observations we agreed with the French observers that a histiocytoma may progress by taking up lipoids to assume the histologic appearance of a xanthoma or, conversely, that it may undergo fibrosis to the point where its appearance simulates that of a fibroma.

Stecker and Robinson prefer to consider all tumors of this kind fibromas of the skin. We feel that the authors, attempting to negate a considerable amount of work done by a number of investigators, should have repeated all of these investigations and should have disproved by actual data the conclusions to which they take exception. A careful perusal of their paper, however, fails to reveal any mention of staining for lipoids, polariscopic examination or vital staining of the cells with colloids. Without performing these tests one cannot definitely determine the nature of the cells in question.

FRANCIS E. SENEAR, M.D., and
MARCUS R. CARO, M.D., Chicago.

Obituaries

ENRIQUE PEDRO FIDANZA, M.D.

1883—1940

In the death of Dr. Fidanza, Latin America has lost one of its most active and able dermatologists. Dr. Fidanza graduated in 1906 in medicine at the National University of Buenos Aires. From then until his untimely death he practiced medicine in the city of Rosario, Argentina.

Almost immediately he became active in dermatology, and in 1907 he organized a dispensary and ward for diseases of the skin and syphilis in the Orphan Home. Subsequently he organized similar services in the Charity Hospital, Spanish Hospital, Italian Hospital, National Centenary Hospital and Carrasco Hospital (leprosy ward). At all of these institutions he was attending dermatologist for varying periods of time.

Dr. Fidanza's ability was recognized by his appointment as professor of clinical dermatology and syphilology in the University at Rosario (Universidad Nacional del Litoral), a position which he held until his death. He was author of three books and nearly one hundred articles on various phases of dermatology and syphilis. He was specially interested in leprosy.

Dr. Fidanza's high standing as a dermatologist was shown by his membership in many dermatologic societies. He was an honorary member of the American Dermatological Association, the Spanish Academy of Dermatology and Syphilology and the Brazilian, Cuban and Uruguayan societies of dermatology and syphilology. He was a corresponding member of the dermatologic societies of France, Belgium, Denmark, Hungary, Italy, Austria and Poland and an active member of the Deutsche dermatologische Gesellschaft. He was a founder member of the Association des dermatologistes et syphiligraphes de la langue française and a member of the Dermatological Society of the Argentine Republic, having been vice president in 1931.

Some of the many honors he received were as follows: He was one of the honorary vice presidents of the Eighth International Congress of Dermatology and Syphilology (Copenhagen, Denmark, 1930); one of the honorary presidents of the Ninth International Congress of Dermatology and Syphilology (Budapest, Hungary, 1935); chairman of the Argentina committee for the Tenth International Congress of Dermatology and Syphilology (to be held in New York); honorary

president of the Dermatological Society of the Sixth National Congress of Medicine (Córdoba, Argentina, 1938); president of the Dermatological Section of the Fifth National Congress of Medicine (Rosario, Argentina, 1934); founder and president of the Dermatological Society of Rosario, Argentina, 1935, and honorary member of the Sixth Congress of Dermatologists (Paris, 1939).

Though extremely busy with his professional duties, Dr. Fidanza managed to find time for other activities. He initiated in Argentina the

ENRIQUE PEDRO FIDANZA, M.D.
1883-1940

industry of making paper from wheat straw (Pomilio method). He was interested in music, art, literature and sports in general. He was a member of the Jockey Club and president for two years of the Football League.

Dr. Fidanza was not only a most distinguished dermatologist and useful citizen but a man who had a delightful personality. He was admired and beloved by his associates, and his death is a great loss to all his dermatologic colleagues.

HOWARD FOX, M.D.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

THE VASCULAR "SPIDER" ASSOCIATED WITH CIRRHOSIS OF THE LIVER. ARTHUR PATEK, JOSEPH POST and JOSEPH C. VICTOR, Am. J. M. Sc. **200**:341 (Sept.) 1940.

The authors observed 48 vascular "spiders" (naevus araneus) in 63 patients with cirrhosis of the liver. They describe these lesions in detail and state that histologically there are two distinct types: The central vessel of one type branches into smaller arteries which have the usual arterial structure, and the other type has histologic traits of the glomus at the juncture of the afferent artery and the central vessel of the spider nevus.

The authors state that neither type resembles a tumor. They regard the simpler type as a manifestation of hyperplasia or hypertrophy of preexisting arteries. The more complex type is thought to represent a metaplastic change. They believe that the acquired vascular "spider" should be distinguished from the congenital form and from hemangiomas.

THROMBOCYTOPENIC PURPURA DUE TO SULFAPYRIDINE. HOLLIS K. RUSSELL and ROBERT C. PAGE, Am. J. M. Sc. **200**:495 (Oct.) 1940.

The author records what he believes to be the first 2 cases in which thrombopenic purpura developed during the course of treatment with sulfapyridine (2-[para-aminobenzenesulfonamido]-pyridine).

THE VULVA. FRANK B. BLOCK, Am. J. M. Sc. **200**:551 (Oct.) 1940.

Block reviews the recent literature on diseases of the vulva. The articles which he reviews give evidence of the frequent diagnostic confusion between leukoplakia, kraurosis, atrophy and pruritus. There are the usual extremes of opinion as to the value of the various therapeutic procedures. The reviewer appears to favor the use of vaginal suppositories of estradiol (progynon-DH) in treating pruritus. Vulvectomy is the favored treatment for malignant tumors of the vulva. In the discussion of elephantiasis there is no mention of lymphogranuloma inguinale. Syphilis is mentioned as the usual cause of vulvar elephantiasis.

LYNCH, St. Paul.

CYTOLOGIC STUDIES ON GLOBI IN LEPROSY. E. V. COWDRY, Am. J. Path. **16**:103, 1940.

Comparison of human leprosy with water buffalo leprosy, rat leprosy and Johne's disease is instructive. Like human leprosy, these diseases have long periods of incubation, the lesions are chronic granulomas, and the bacilli are chiefly intracellular, many of them living in a kind of symbiosis with the cells. Globi in human leprosy resemble in some respects those in water buffalo leprosy. They differ markedly from the rosettes in rat leprosy and the peripheral bodies in Johne's disease. There is no evidence in water buffalo leprosy, rat leprosy or Johne's disease that these distinctive aggregations of organisms are formed extracellularly within the lumens of lymphatics. At least the smaller globi in water buffalo leprosy and all the rosettes and peripheral bodies in rat leprosy and in Johne's disease develop intracellularly in cells of the reticuloendothelial system, much as the globi in human leprosy do.

FROM AUTHOR'S SUMMARY. [ARCH. PATH.]

THE TRANSMISSION OF LYMPHOGRANULOMA VENEREUM TO THE GUINEA PIG. A. W. GRACE and F. H. SUSKIND, Am. J. Path. **16**:169, 1940.

The guinea pig is regularly and readily infected with suitable strains of the virus of venereal lymphogranuloma. The induced disease resembles to a certain extent the human form.

[ARCH. PATH.]

THE EFFECT OF EARLY SUBCURATIVE ARSENICAL AND THERMAL TREATMENT ON THE DEVELOPMENT OF SPECIFIC IMMUNITY IN SYPHILITIC RABBITS. I. I. SCHAMBERG, Am. J. Syph., Gonor. & Ven. Dis. **24**:401 (July) 1940.

Two groups of rabbits were inoculated in the testes with a testicular emulsion of Spirochaeta pallida, Nichols strain. Subcurative treatment, both arsenical and thermal, did not prevent the development of specific resistance to the infection, as evidenced by the failure of subsequent attempts to produce lesions by reinoculation with homologous strains of S. pallida.

OBSERVATIONS ON THIRTY-FIVE CASES OF VENEREAL LYMPHOGRANULOMA TREATED WITH SULFANILAMIDE. R. O. STEIN, Am. J. Syph., Gonor. & Ven. Dis. **24**:454 (July) 1940.

The resolution of the lesions occurred within two to four weeks in all patients adequately treated. If fibrosis had developed the response was much less rapid. It was necessary to continue therapy for a week or ten days after the lesions had completely subsided. The dosage was as follows: four weeks of treatment with 4 Gm. a day, three weeks with 5.3 Gm. a day or two weeks with 6.6 Gm. a day.

Twenty patients were followed for six or eight months and remained clinically well. The reaction to a Frei test was reversed to negative with this method of therapy in 4 of 5 patients tested.

THE PROTECTIVE VALUE OF BISMUTH IN SYPHILIS. P. J. HANZLIK, A. J. LEHMAN and W. VAN WINKLE JR., Am. J. Syph., Gonor. & Ven. Dis. **24**:468 (July) 1940.

Tests were made over a period of four years on 49 rabbits which drank sobisminol solution in strengths of from 0.025 to 0.6 per cent continuously. They drank the solutions for about one week before the infectivity of spirochetes was tested. Positive reactions to tests for bismuth in the urine were demonstrated in all animals before the spirochetes were planted. After varying periods of observation, 100 per cent of the rabbits drinking from 0.3 to 0.6 per cent sobisminol solution failed to show local lesions, and transfers of lymph nodes of 100 per cent of the rabbits drinking 0.5 to 0.6 per cent solutions gave negative results.

THE OCCURRENCE OF POSITIVE SEROLOGIC TESTS FOR SYPHILIS IN ANIMALS OTHER THAN MAN, WITH A REVIEW OF THE LITERATURE. J. E. KEMP, ELSIE M. FITZGERALD and MILDRED SHEPHERD, Am. J. Syph., Gonor. & Ven. Dis. **24**:537 (Sept.) 1940.

According to the authors' experience and from a review of the literature, a large number of animals other than man have been found to give positive reactions to serologic tests for syphilis. There is a marked discrepancy between the results of different tests in different animal species and the results of identical tests in the same animal species. It is concluded as a result of this study that the frequency with which positive reactions to tests for syphilis occur in animals other than man has no bearing on the validity of the tests when positive reactions to these tests are the only evidence of syphilis in man.

THE PROGNOSIS IN SYPHILITIC AORTIC INSUFFICIENCY: AN EVALUATION OF FACTORS OTHER THAN ANTISYPHILITIC TREATMENT. R. H. KAMPMEIER and S. R. COMBS, Am. J. Syph., Gonor. & Ven. Dis. **24**:578 (Sept.) 1940.

One hundred and sixty-three patients were studied, 120, or 73 per cent, of whom are now dead; 54.6 per cent of the deaths occurred within three years after the onset of symptoms. Negro males were the most severely afflicted, as only 25 per cent lived three or more years after the onset of symptoms. Slightly less than half of the white males and Negro females and over half of the white females survived three or more years.

The longer the duration of symptoms before the diagnosis is established, the poorer the prognosis. The study did not indicate that adequate antisyphilitic treatment influences favorably the prognosis of syphilitic aortic insufficiency.

CISTERNAL PUNCTURE: A SURVEY OF THE REACTIONS FOLLOWING 1,246 PUNCTURES. G. V. KULCHAR, Am. J. Syph., Gonor. & Ven. Dis. **24**:643 (Sept.) 1940.

The author had a very low incidence of reactions in his series of 1,246 cisternal punctures on 960 ambulatory patients. The most common type of reaction was headache, which was slight after 6.6 per cent, moderately severe after 1.9 per cent and severe after 1.4 per cent of the cisternal punctures. Pain or stiffness in the cervical region was slight after 2.8 per cent and moderately severe after 0.1 per cent of the punctures. The incidence of other symptoms was comparatively insignificant.

REUTER, Milwaukee.

PURPURA HAEMORRHAGICA DUE TO THE ARSPHENAMINES. ERNEST H. FALCONER, NORMAN N. EPSTEIN and EDITH H. MILLS, Arch. Int. Med. **66**:319 (Aug.) 1940.

In an attempt to determine whether ascorbic acid modified sensitivity to arsenicals, the drug was administered to 7 patients who had suffered repeated attacks of thrombopenic purpura due to neoarsphenamine or bismarsen. At no time and in no patient was there any appreciable modification of sensitivity reaction during or after administration of the ascorbic acid.

DERMATOMYOSITIS AND SYSTEMIC LUPUS ERYTHEMATOSUS. HARRY KEIL, Arch. Int. Med. **66**:339 (Aug.) 1940.

In his second report Keil continues to point out the similarities and differences between dermatomyositis and systemic lupus erythematosus, studied under thirteen clinical pathologic headings. He believes that there is a closer relation than is generally accepted.

BACTERIAL ENDOCARDITIS AND SYPHILIS OF THE AORTIC VALVE. DAVID H. ROSENBERG, Arch. Int. Med. **66**:441 (Aug.) 1940.

Rosenberg reports 7 instances of syphilitic aortic valvular disease complicated by acute or subacute bacterial endocarditis. It is his opinion that this association is more frequent than is suggested by the limited number of cases previously reported.

RENAL INVOLVEMENT IN DISSEMINATED LUPUS ERYTHEMATOSUS. J. MINOTT STICKNEY and NORMAN M. KEITH, Arch. Int. Med. **66**:643 (Sept.) 1940.

Although the albuminuria of acute lupus erythematosus has long been recognized, there is no agreement as to the nature of the pathologic condition in the kidneys. Stickney and Keith record the changes in the kidneys in 15 patients with this disease (3 also had endocarditis) who died. In 8 of these there was no change other than that usually found terminally in debilitating disease. In the remaining

patients there was endothelial proliferation in the glandular capillaries associated with hyaline thickening of the capillary walls and some thickening of the basement membrane. Since these changes are commonly observed in other diseases, the authors conclude that there is no common distinct renal lesion in lupus erythematosus and that the changes which are recorded are probably secondary to toxic processes.

LYNCH, St. Paul.

THE VOLLMER PATCH TEST AS A ROUTINE PROCEDURE. JOHN DORSEY CRAIG and LEWIS A. SCHEUER, Arch. Pediat. **57**:177 (March) 1940.

Two hundred and twelve children who had previously showed positive reactions to injections of a 1:1,000 dilution of old tuberculin were tested with the Vollmer patch test and with first strength purified protein derivative. Two hundred and two, or 95.1 per cent, showed a conformity in positive reactions between the 1:1,000 dilution of old tuberculin and the Vollmer patch test. One hundred and eighty, or 84 per cent, showed a conformity in positive reactions between the 1:1,000 dilution of old tuberculin and the first strength purified protein derivative. The greatest number of negative reactions to the first strength purified protein derivative occurred in the children who had had a positive reaction to the old tuberculin an appreciable length of time before the testing.

The authors conclude that the Vollmer patch test is a satisfactory diagnostic mechanism.

ORR, Buffalo. [AM. J. DIS. CHILD.]

AN UNUSUAL CASE OF DEFICIENCY DISEASE IN A PATIENT WITH DIABETES MELLITUS. ABRAHAM RUDY, Endocrinology **27**:206 (Aug.) 1940.

Rudy says that deficiency states are more commonly associated with diabetes than is generally recognized. He believes that pellagrous cutaneous manifestations are fairly common and records a case in which large bullous lesions were followed by ulcerations on the legs. Unusual neurologic and gastrointestinal manifestations were also present.

LYNCH, St. Paul.

BUTTERFAT IN DERMATITIS-PRODUCING DIETS. H. A. SCHNEIDER, Proc. Soc. Exper. Biol. & Med. **44**:266 (May) 1940.

Fresh butterfat fed at the 9 per cent level was able to prevent the occurrence of dermatitis in rats reared on a dermatitis-producing diet. Rats fed a diet containing the same amount of butterfat which was rancid had dermatitis. Feeding fresh butterfat cured the cutaneous lesions in these animals. Thus the antidermatitis action of fresh butterfat has been confirmed.

HANSEN, Minneapolis. [AM. J. DIS. CHILD.]

ERYTHRODERMA WITH EPIDERMOLYSIS IN A CHILD TEN YEARS OLD. ROBERT DEBRÉ, MAURICE LAMY and MICHEL LAMOTTE, Bull. Soc. pédiat. de Paris **37**:231 (April) 1939.

A boy 10 years old had diffuse mucocutaneous lesions consisting of large bullae which contained sterile yellowish fluid, areas of erythema and areas of epidermolysis. These were accompanied by fever, and the boy was very sick. He recovered after about ten days, but the cutaneous lesions took somewhat longer to heal and left pigmented areas. The finger nails were shed. There was a high level of excretion of urea, which was considered to be due to extensive tissue proteolysis. The cause of the condition was not definitely determined. In the absence of any evidence of infection, a toxic factor was considered likely.

BENJAMIN, Montreal, Canada. [AM. J. DIS. CHILD.]

MONGOLIAN MARKS. K. O. HENCKEL, Rev. méd. latino-am. **15**:760 (April) 1940.

The great majority of mongolian marks are localized in the sacrococcygeal region. Microscopically, they are characterized by the presence of pigmented cells, melanoblasts, in the stratum reticulare. This phenomenon was described in 1883 by Baelz, who encountered it with great regularity in newborn Japanese and called it mongolian marks.

The incidence of the condition varies widely in different countries and races. For example: In Tucaman, Argentina, it is reported as occurring in 51 per cent of children under the age of 1 year. In Bolivia it has been observed in 16.6 per cent of white persons and in 86.6 per cent of Indians. In North America it is reported as occurring in 0.28 per cent of white persons and 30 per cent of Negroes. A full bibliography and two photomicrographs are presented.

DWYER, Kansas City, Mo. [AM. J. DIS. CHILD.]

ERYTHEMA NODOSUM IN CHILDHOOD IN TURKEY. I. DOGRAMACI, Ann. pædiat. **154**:357 (March) 1940.

Of 53,000 patients examined during the last five years in the children's clinic of the Model Hospital of Ankara, 90 with erythema nodosum were observed. The maximal incidence was in children 8 to 10 years old. A cumulative series of cases was observed in February (13 cases), March (17 cases) and April (10 cases). The number of boys exceeded that of girls by 2. In most of the 39 children tested with tuberculin the reaction was strongly positive, and those with negative reactions did not exceed 4 (10.25 per cent). The author examined 1 patient about two months prior to the eruption, and the reaction to tuberculin was negative; after the eruption it became strongly positive.

The author states that he has no proof that the articular pains represented true rheumatism.

The hypothesis that erythema nodosum is a specific disease is the earliest theory and still has its advocates. The clinical character of erythema nodosum is comparable with those of other eruptive diseases of infancy. The so-called cases of contagion in the literature constitute another argument in favor of this hypothesis. In 2 of our patients, living in the same house and in close contact, erythema nodosum appeared with a three day interval. The tuberculin reaction was strongly positive in both patients. One of these had given a negative reaction about two months before the eruption, while being treated for malaria, but after the eruption tubercle bacilli were demonstrated in the sputum.

In 1 patient, free from tuberculosis, erythema nodosum followed vaccination against typhoid fever. In this case the author could not attribute the disease to any other factor. FROM THE AUTHOR'S SUMMARY. [AM. J. DIS. CHILD.]

RECKLINGHAUSEN'S NEUROFIBROMATOSIS AND THE EYE: REPORT OF A CASE. F. W. MEYER, Klin. Monatsbl. f. Augenh. **103**:44 (July) 1939.

A man aged 29, who gave the impression of being a dull youth of 18 years, had observed a considerable enlargement of the upper lid of his right eye for several years. He had underdeveloped testicles and presented a feminine habitus. A tumor removed from the area of the shoulder blade proved to be a neurofibroma. The elephantiasis of the lid was of the same type. Aside from these tumors only two nodules in the skin were found to establish the diagnosis of Recklinghausen's neurofibromatosis and mental and endocrine disturbances. No explanation could be given for an enormous enlargement of the optic canal and for a peculiar structure of the sella turcica. Photomicrographs of the tumors are presented.

K. L. STOLL. [ARCH. OPHTH.]

ECZEMA VACCINATUM. HANS ASPERGER, Wien. klin. Wchnschr. **36**:826 (Sept. 8) 1939.

Hans Asperger (Vienna) reports the fatal case of a 9 month old infant who had suffered for four months from seborrheic eczema. She was hospitalized on account of the outbreak of vesicles and high fever. The clinical picture of eczema vaccinatum was confirmed by laboratory tests of the contents of the vesicles. Further investigation revealed that a 12 year old brother had been vaccinated two weeks before the exacerbation of the sister's eczema. Five days previously a high fever and a large, running vaccination pustule had developed in the boy, and during these days he had played with the infant.

The infection spread over the child's entire body, and she died on the twelfth day. Fever and a few pustules developed in the mother also, in view of which the author believes that a familial susceptibility to the vaccine virus may have existed. Nevertheless, he recommends vaccination in early life as one way to prevent disorders of this kind.

ABT, Chicago. [AM. J. DIS. CHILD.]

EFFECT OF VITAMIN C IN PYOGENIC INFECTIONS OF THE SKIN IN INFANCY. J. WIRTH, Orvosi hetil. **83**:310 (April 1) 1939.

A Hungarian preparation of vitamin C ("citamino") was given in large doses (50 mg. each), intravenously or intramuscularly, to 20 patients. The author observed a good effect, especially in cases of "primary" pyogenic infections.

GÖTTCHE, Budapest, Hungary. [AM. J. DIS. CHILD.]

INFLUENCE OF ARSPHENAMINE TREATMENT ON THE SEROLOGIC REACTION. K. AKIYAMA, D. BOKU and Y. TOKUMITSU, Lues: Bull. Soc. japon. de syph. (Abstr. Sect.) **18**:13 (June) 1939.

Observation of 420 syphilitic patients at the dermatologic clinic at Kyoto revealed that 72 to 79 per cent of those with manifest syphilis had a negative serologic reaction after antisyphilitic treatment, while 49 per cent of those with latent syphilis had negative reactions. The reaction became negative for patients with primary syphilis after one course of treatment and for those with latent syphilis after the third.

In about 10 per cent of the cases of primary, tertiary and latent syphilis the Wassermann reaction oscillated irregularly between positive and negative during the course of treatment. In two thirds of the cases of metasyphilis and congenital syphilis the treatment did not influence the reaction. Except in the latter form of syphilis the author did not observe any Wassermann-fast condition after three courses had been administered.

Successful production of the Wassermann reaction was occasionally seen in cases of primary, secondary and latent syphilis but never in cases of congenital syphilis or metasyphilis. In some cases paradoxic reactivation of the reaction was noted, but the seronegative phase following the injection of arsphenamine usually lasted one week only.

EXPERIMENTAL INVESTIGATION OF THE INFLUENCE OF ALIMENTARY ACIDOSIS ON RABBIT SYPHILIS: I. INFLUENCE OF ACIDOSIS ON THE INOCULATION LESION OF THE BACK. S. OTSUJI, Lues: Bull. Soc. japon. de syph. (Abstr. Dept.) **18**:15 (Aug.) 1939.

The author produced acidosis in rabbits by feeding them cane sugar. He investigated then the influence of acidosis on the course of the syphilitic inoculation lesion. He found in acidotic rabbits the incubation period of the inoculation lesion much shortened and the lesion itself more pronounced than in control rabbits. At 1 to 2 cm. distance from the end of the anterior extremity there frequently developed a pea-sized nodular lesion of cartilaginous consistency.

A Case of Blood Transfusion Syphilis. T. Ohno, Lues: Bull. Soc. japon. de syph. (Abstr. Sect.) **18**:19 (Aug.) 1939.

The author reports the case of a 1 year old infant in whom syphilis developed after the intramuscular transfusion of blood from the mother. One month after this transfusion there appeared in the infant at the site of injection a primary sclerotic lesion followed by a large papule near the chancre and numerous small papules around the anus. Seventeen days before the examination of the child, the mother had a generalized papular eruption and a strongly positive Wassermann reaction.

The author reviews 10 cases of blood transfusion syphilis recorded in the Japanese literature. In these cases the infection manifested itself from the start in secondary symptoms. More severe symptoms, such as fever, psoriasiform and pustular eruptions, crusted papules, petechiae, ulcers, visual disturbance and disturbance of motility of the extremities, are seen with blood transfusion syphilis more frequently than with ordinary syphilis.

Bloom, New York.

Society Transactions

PITTSBURGH DERMATOLOGICAL SOCIETY

C. L. SCHMITT, M.D., *President*

M. W. RUBENSTEIN, M.D., *Secretary*

Oct. 17, 1940

Dermatitis Herpetiformis. Presented by DR. W. H. GUY and DR. F. M. JACOB.

D. W., a white woman aged 21, presents a grouped bullous and papular, widely scattered eruption. The eruption is recurrent and is of several years' duration. The patient has been seen by several of the members and is presented for discussion as to treatment.

DISCUSSION

DR. FREDERICK AMSHEL: I believe that the diagnosis is open to question and that a differential diagnosis should be made between erythema multiforme bullosum and dermatitis herpetiformis. The critical appearance of the eruption suggests erythema multiforme bullosum; however, the history and the distribution of the lesions point to the diagnosis as presented.

DR. STANLEY CRAWFORD: Although I agree with the diagnosis of the presenters, I, too, believe that erythema multiforme bullosum must be considered, as there is a small erythematous halo around each bulla. The patient complains of intense burning and itching, which are features of dermatitis herpetiformis (Duhring's disease).

Pemphigus (Chronic). Presented by DR. HOWARD T. PHILLIPS, Wheeling, W. Va.

C. S., a white woman aged 45, presents a generalized bullous eruption. In addition, many crust-covered areas are present. The vaginal, anal and buccal mucosae are uninvolved. The neck, face, hands and wrists are also completely free of lesions. Pruritus is severe.

The eruption is of twelve months' duration. The treatment to date includes repeated use of fractional doses of roentgen rays, sulfanilamide and whole blood transfusions. Improvement followed the sulfanilamide therapy and the blood transfusions. At present the patient is taking vitamin B complex. She has lost about 10 pounds (4.5 Kg.) in the past six months.

DISCUSSION

DR. G. J. BUSMAN: I should like to classify this case with the previous one. The condition certainly is not pemphigus vegetans or pemphigus foliaceus. I do not see why there is any argument against the diagnosis of chronic dermatitis herpetiformis (Duhring's disease). The patient has had grouped bullous and crusted lesions for one year. She is not acutely ill and has no oral lesions. I accept the diagnosis of chronic pemphigus, but I would not disagree with a diagnosis of dermatitis herpetiformis.

DR. LESTER HOLLANDER: I agree with the diagnosis of pemphigus. Naturally the patient herself will sooner or later differentiate the disease for us. I think the condition conforms well with the slowly evolving type of pemphigus. A positive Nikolsky sign can be elicited, which means that the condition is the foliaceus type. I have been studying a patient with pemphigus for over three years with Dr. Amshel; we see him very frequently, and during this time he has had no lesions

of the mucous membrane. The appearance of his condition is practically the same as that of the patient presented tonight. Our patient, who unquestionably has pemphigus, also had itching during his early and secondary stages, which symptom I believe is not stressed in the textbooks. As far as treatment is concerned, I suggest the installation of a continuous water bath in the patient's home. It is not necessary to hospitalize a patient for this type of therapy.

DR. G. J. BUSMAN: Because a positive Nikolsky sign can be elicited it does not necessarily follow that the diagnosis is pemphigus. Sometimes this sign is present with other conditions. I am not disproving the diagnosis of dermatitis herpetiformis, but I suggest that Dr. Phillips give the patient large doses of solution of potassium arsenite U. S. P. and report the results.

DR. LESTER HOLLANDER: I did not base the diagnosis on a Nikolsky sign. I merely mentioned that this sign could be elicited.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: As already stated, the patient has had some roentgen ray therapy. The bullous lesions were about the size of large marbles. It is only since these bullae have disappeared and the dry and crusted lesions have made their appearance that the patient has complained of itching. The patient has had transfusions of 200 to 300 cc. of whole blood twice a week with a great deal of improvement in so far as the disappearance of the bullous lesions is concerned.

A Case for Diagnosis (Lupus Erythematosus of the Scalp?). Presented by DR. W. H. GUY and DR. F. M. JACOB.

M. C., a white woman aged 25, presents a sharply demarcated red scaly patch on the right temporal area of the scalp. Incomplete alopecia is present. The patch is of several years' duration and is pruritic.

Treatment to date, including gold therapy and roentgen rays, has been of no avail.

DISCUSSION

DR. FREDERICK AMSHEL: I agree with the diagnosis. There is a possibility that the condition in part may be due to neurotic excoriation.

DR. A. FISHER, McKeesport, Pa.: I saw this girl five or six years ago, at which time she presented a typical brownish cerebelliform nevus in the area where the present scaly lesion is located. I believe that what is seen here is the result of treatment, for I know that solid carbon dioxide has been used.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: Without any history of treatment, in consideration of the redness, scaliness and loss of hair and with no evidence of neurotic excoriations, the diagnosis of lupus erythematosus is the best one. However, since the information has been added that a definite nevus was present and that previous treatment, including solid carbon dioxide and possibly radiation, has been used, another diagnosis must be considered.

DR. W. H. GUY: We have seen this patient at infrequent intervals for two years, and never has there been any suggestion of a nevus. Microscopic section showed a simple inflammatory reaction. Apparently there is a permanent loss of hair and in some places definite atrophy. I do not doubt that the patient may have had a nevus removed, as Dr. Fisher has mentioned. However, the clinical appearance of the area led us to think of lupus erythematosus. We continued to question this diagnosis chiefly because the area becomes exudative at times. A gold compound was of no benefit, nor was a bismuth compound or any of the remedies usually used in the treatment of lupus erythematosus. We doubt very much that the process is factitious.

Lupus Erythematosus in an Adolescent Girl. Presented by DR. L. G. BEINHAUER and DR. S. R. PERRIN.

R. T., a white girl aged 12 years, presents a finely adherent scaly rounded plaque, approximately 1.5 cm. in diameter, located on the bridge of the nose. Telangiectasia can be seen throughout most of the lesion.

DISCUSSION

The diagnosis was accepted by all present.

Pityriasis Lichenoides et Varioliformis Acuta. Presented by DR. STANLEY CRAWFORD.

M. L. R., a white girl aged 5 years, presents a discrete brownish red papular eruption involving chiefly the anterior and posterior surfaces of the trunk. Some papules show a small vesicular center, while others are crusted or have a scale-covered center. A few have round or oval scales in the centers. In the latter type of lesion there is a peripheral pigmentation, while the majority of the lesions show decided depigmentation. The lesions measure 3 to 6 mm. in diameter and have a slighty waxy appearance.

At the time I first saw this patient, her sister had typical varicella, which was subsiding. The patient's eruption also began as varicella in May 1940. There has never been any pruritus.

Microscopic examination showed a moderate acanthosis but no parakeratosis. Some of the rete cells showed a slight intercellular edema. An occasional intercellular vesicle was seen above the basal layer. The papillary body showed a moderate round cell infiltration, most evident about the capillaries.

DISCUSSION

DR. LESTER HOLLANDER: I agree with the diagnosis of pityriasis lichenoides et varioliformis acuta. This patient is the youngest one I have ever seen with such a disease, and also the duration is longer than in any patient I have seen.

DR. STANLEY CRAWFORD: The interesting feature to me was the coincidental eruption of varicella in the sister. It aroused in me the question as to whether the eruption is not caused by a virus. The depigmentation about almost all the lesions is unusual, although it has previously been described. I had a patient 13 months of age with this disease, and Dr. Ormsby had one about 15 months old.

A Case for Diagnosis (Pityriasis Lichenoides Chronica? Parapsoriasis Varioliformis?). Presented by DR. HOWARD T. PHILLIPS, Wheeling, W. Va.

H. S., a white woman aged 24, presents a more or less generalized eruption involving especially the arms, neck, abdomen and right leg, consisting of papules which are round, oval and varying in size, many of which have a central depression. Most of the papules are covered with scales, and in many a slightly shining and glistening top is observed.

The onset of the eruption occurred in the latter part of August. In June the patient began work as a saleswoman in the glove department of a store. The patient believes that the eruption was definitely worse when she was handling gloves and states that she has improved since she was transferred to another department. Her mother gives a history of sensitization to leather which produced an eczematous condition of the hands. Treatment consisted of three fractional doses of roentgen rays and has not produced any definite improvement.

DISCUSSION

DR. G. J. BUSMAN: I think that the duration of the eruption is too short to establish a diagnosis of parapsoriasis. Also, there is hardly enough itching for this disease. I think that if the condition were to persist over months and years, such a diagnosis would be tenable.

DR. EMERSON GILLESPIE, Canton, Ohio: As I understand parapsoriasis, it ordinarily does not cause itching, although it may be present. I cannot think of any diagnosis that would fit the condition in this case better than pityriasis lichenoides chronica.

DR. F. M. JACOB: It is interesting to note that patients are apt to get confused as well as physicians. This woman worked in a glove department for a month

or two, and evidently a contact dermatitis developed from handling leather. At least, she thinks that the condition was due to contact with leather. However, her diagnosis is not certain any more than ours is.

DR. LESTER HOLLANDER: I should like to suggest, in addition to the diagnoses mentioned, two other conditions to be considered. First, this patient has evidence of psoriasis; some of the lesions around the elbows suggest this. The second diagnosis I should like to suggest is pityriasis lichenoides et varioliformis acuta; of course, one would have to show the presence of vesicular lesions. I do not know whether some of the lesions seen here are excoriations from which the scales were removed or vesicular lesions traumatized by the patient's clothing.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: This patient had a contact dermatitis, I believe, although I am not certain. She and her mother both had plantar keratoses of the palms and soles, and this condition was worse during the time that she worked with gloves. When she transferred to another department the hands were definitely better. I had thought of psoriasis and also of lichen planus. The absence of lesions on the exposed parts may lead to a clue as to treatment; that is, heavy doses of ultraviolet radiation may be effective. However, I believe that the diagnosis is pityriasis lichenoides, in a not very acute form. At one time I had the idea that conditions like this improved if left alone. I had a patient with this condition a few years ago, and when I saw her several years later she was definitely improved without any treatment.

DR. STANLEY CRAWFORD: I think that this case is a typical one of pityriasis guttata. Like Dr. Hollander, I can see a resemblance to pityriasis lichenoides et varioliformis, although there is no vesiculation.

A Case for Diagnosis (Dermatomyositis?). Presented by DR. H. M. FRIEDLANDER, Washington, Pa.

C. S., a white girl aged 19, presents a papulovesicular erythematous eruption on the mesial aspect of both forearms. On both legs, involving an area from just above the knees to the ankles, the follicular openings are elevated and the color is dusky red. The legs are firmer than normal, and they seem hard to the touch. The underlying soft tissue is tender to pressure. On the extensor surface of the right forearm there is a circular patch studded with red papules. This is an area of a previous burn. Both malar regions are pink, and the skin is rough to the touch. According to the history, the patient first noticed an urticarial eruption on the legs three weeks ago. At that time itching was intense, particularly at night. She was first seen by me two weeks ago, and at that time only the legs were involved. It was not until about a week ago that the present widespread manifestation occurred. The patient complains of soreness in the muscles of the forearm and of the legs. She also states that there is an increasing fatigue on moderate exertion.

DISCUSSION

DR. A. FISHER, McKeesport, Pa.: My diagnosis is contact dermatitis. I think that the primary contact may be stockings and that there is a secondary involvement of the arms and face.

DR. BERNHARD A. GOLDMANN: I agree with a diagnosis of contact dermatitis.

DR. EMERSON GILLESPIE, Canton, Ohio: I think that this condition is a dermatitis of external origin and that possibly the lesions on the legs are due to shaving. She does shave her legs.

DR. J. M. SHELTON, Washington, Pa.: The contact agent may have been an ointment, as the patient told me that she had applied an ointment to the urticaria after it first appeared and that the present eruption followed and extended to the arms and face.

DR. H. M. FRIEDLANDER, Washington, Pa.: I went into the question of contact dermatitis carefully, and it is certainly a possibility. The eruption started on the legs and did not extend beyond the area covered by the stockings. The patient

rolls her stockings to just above the knees. She does not shave her legs regularly, although she shaved them about five months ago. She does not wear nylon hosiery. She uses no cosmetic except a little powder. When I first saw this patient she had a definite urticaria with prominent follicular openings. About three days ago the present lesions appeared on the face. She complained of burning, and her face felt rough to the touch. Because of the facts that the ankles and wrists were not involved, that there was a mild malaise and that her legs readily became tired, I thought of a dermatomyositis. However, I do not feel too strongly about the diagnosis. I have not been able to find anything in the way of a contact.

Contact Dermatitis. Presented by DR. MARVIN B. GOLDSTEIN, Youngstown, Ohio.

E. R., a white man aged 37, presents a sharply demarcated discrete and confluent vesiculopapular eruption involving the arms, legs and face. The eruption is of seven years' duration with frequent periods of remission. Many patch tests have been made, and pyrethrum was the only substance that gave definitely positive reactions. On a recent occasion his wife dusted an ant powder around the kitchen, and the patient broke out with a violent eruption. This powder was found to contain pyrethrum. Although this contact has been avoided in the past four months, the eruption continues unabated.

DISCUSSION

DR. A. FISHER, McKeesport, Pa.: This condition appears to me to be a type of erythroderma. General sensitization has now taken place. I had a case similar to this in which I used an ointment of 30 per cent sulfur in petrolatum, as suggested by Dr. Abramowitz. The patient did exceptionally well. The itching was practically entirely relieved. I think that this procedure might be tried, with caution.

DR. LESTER HOLLANDER: I think that if Dr. Fisher agrees that there is a sensitization to some substance, then he must also agree that the first thing to do is to soothe the skin, and 30 per cent sulfur in petrolatum will not do this. If anything is to be applied it should be an innocuous substance, such as talcum powder.

DR. MARVIN B. GOLDSTEIN, Youngstown, Ohio: This patient is very sensitive to sulfur. He cannot tolerate even 1 per cent sulfur in petrolatum.

Lichen Sclerosus et Atrophicus. Presented by Dr. J. M. SHELTON, Washington, Pa., and Dr. A. FISHER, McKeesport, Pa.

K. J., a white woman aged 24, presents on the upper and medial border of the right scapula three circumscribed depressed atrophic lesions, the largest of which is the size of a quarter. The overlying skin is atrophic and drawn into folds. Definite small dark follicular plugs are noticed on the surface of the larger lesion. The small spots are irregularly round. On the outer surface of the calf of the left leg there is a similar lesion, the outline of which is not so definite. There are no lesions of the mucous membranes.

The patient gives a history of having opened a small yellow pimple-like lesion at the site of the larger patch about two years ago. This was followed by the development of the larger atrophic area. During the past year and a half the smaller lesions have appeared.

Microscopic examination showed the typical appearance of lichen sclerosus et atrophicus. There was moderate thinning of the epidermis with definite edema and some degeneration of a narrow zone of connective tissue immediately underlying the epidermis. A thin layer of lymphocytic infiltration was seen immediately beneath this area of edema and degeneration.

DISCUSSION

DR. F. M. JACOB: Is the lesion on the leg the same as the one on the back?

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: I have observed 2 or 3 cases of this kind, and I have never been able to do anything that caused improvement. I never saw a lichen planus lesion in these cases, and I merely termed the condition a sclerosis of the skin. It is a peculiar type of scleroderma, but it is a sclerodermatous process.

DR. LESTER HOLLANDER: I have seen this patient with lesions of lichen planus. The microscopic section presented a typical picture of lichen planus.

DR. STANLEY CRAWFORD: I think that this condition is rare. It is lichen sclerosus et atrophicus and not lichen planus. Dr. Hollander stated that this patient at one time showed lichen planus lesions. I believe such cases are rather unusual, but certainly the histologic picture makes one think that the condition is a variant of lichen planus.

DR. J. M. SHELTON, Washington, Pa.: The question was raised as to the lesion on the leg. This was similar to the smaller lesions below the larger plaque on the scapula. The patient pointed it out to us and said that it had undergone the same changes as the large one. The only way to verify the diagnosis is by microscopic examination, and the histologic picture is typical.

DR. EMERSON GILLESPIE, Canton, Ohio: I cannot see how one could possibly differentiate between atrophic lichen planus and even lupus erythematosus. There is nothing to base the diagnosis on but atrophy.

DR. LESTER HOLLANDER: I think that the diagnosis was not based merely on the atrophy. About five weeks ago when I first saw this patient there were definite lichen planus lesions, and beyond the lichen planus lesions one could see the atrophic lesions.

A Case for Diagnosis (Dermatomyositis? Scleroderma?). Presented by DR. H. R. VOGEL.

R. B., a Negro aged 16, presents an exquisitely painful plaquelike indurated area in the right subscapular region. The lesion is leathery, and the affected side is raised as if by a spasm of the trapezius muscle. Particular attention is called to the tenderness.

The condition is of six months' duration and apparently is slowly progressive.

Serologic tests for syphilis gave negative results, and the blood count was normal. Urinalysis showed a 2 plus reaction for albumin and 1 to 6 white blood cells per high power field.

DISCUSSION

DR. EMERSON GILLESPIE, Canton, Ohio: I believe the condition is localized scleroderma in the early stages. There is some erythema and edema. The lesion did not seem exquisitely tender to me, because the patient did not flinch when I touched it.

DR. H. R. VOGEL: This patient was seen for the first time this week. He first noticed the lesion when a companion tapped him on the back. Since then the lesion has become progressively more tender, and this morning I certainly could not manipulate it much.

A Case for Diagnosis (Acrodermatitis Chronica Atrophicans? Sclero-Derma? Dermatomyositis?). Presented by DR. H. R. VOGEL.

P. P., a white woman aged 44, presents a bizarre erythematous eruption which is composed of various shades of red and is solid in some areas and mottled in others. The areas involved are the left inframammary region, the right thigh, the right leg, the left knee, the buttocks, the back and both forearms and hands. On the left forearm and the right leg there are suggestions of sclerodermatous changes, but the rest of the lesions present no atrophic or hypertrophic transformations. In addition, the patient has a keloid from an old operation. There are no subjective symptoms.

The duration of the eruption is approximately two years. It began on the left wrist and elbow and was confined to these locations for six months before it spread to the aforementioned areas. The patient has been treated with a tissue extract (insulin-free pancreatic extract) for the past three months without any appreciable improvement.

Urinalysis and serologic tests for syphilis gave negative results. Examination of the blood showed a moderate degree of secondary anemia with a normal differential count. The basal metabolic rate was +4 per cent.

DISCUSSION

DR. STANLEY CRAWFORD: This condition is typical acrodermatitis chronica atrophicans in association with small fibromas. It is rather extensive on the extremities.

Sarcoid of Boeck. Presented by DR. F. J. KRUGH and DR. J. M. SHELTON, Washington, Pa.

E. T., a white man aged 42, presents two well circumscribed lesions, one over each malar eminence. These lesions are roughly circular and are about the size of a dime. They are definitely infiltrated and show a clearing slightly depressed center with red moderately indurated borders. Immediately medial to the lesion on the right cheek there is an area of slight blanching and telangiectasia which presents the possibility of a cleared lesion.

A year ago the patient had similar lesions in the same location, which cleared after one injection in the arm, the nature of which is unknown. The present eruption appeared in June of this year and has since remained practically stationary.

A roentgenogram of the chest showed definite enlargement of the hilar shadows without any evidence of a parenchymal lesion. The roentgenologist's opinion was that of a low grade chronic infection involving the hilus.

DISCUSSION

DR. EMERSON GILLESPIE, Canton, Ohio: At first I thought of lupus erythematosus as the possible diagnosis. The lesion is sharply circumscribed, but scaling is not easily discernible. I do not believe it is a sarcoid because the erythema entirely disappears on pressure, which suggests an early inflammatory lesion not typical of an infiltrative process like sarcoid. The other possibility is that of a fixed eruption of some type.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: I agree with Dr. Gillespie that this lesion is not a sarcoid. I recall having encountered a case like this about two years ago. The lesion disappeared when a gold compound was given, and no residual mark remained. It recurred a year later and again disappeared when sulfanilamide was administered. The third year it reappeared, and a gold compound again caused the lesion to resolve. It almost seemed that it would disappear no matter what treatment was given. It is possible that the lesion was some type of drug eruption, although I could not obtain a history of the ingestion of drugs.

DR. F. J. KRUGH: I should like to point out the enlargement of a tracheobronchial lymph node, which may be part of the Boeck-Besnier-Shaumann syndrome.

A Case for Diagnosis (Prurigo Ferox? Echthyma? Papulonecrotic Tuberculid? Eczema?). Presented by DR. C. L. SCHMITT.

C. J., a Negress aged 13, presents a granular crusted pustular eruption with many scars of healed lesions on the chin, left ear, nares and extremities. The torso is free from any lesions. The tonsils are enlarged but not definitely diseased. The eruption almost clears in winter and gets worse again in the summer. The eruption began at the age of 6 years following a vaccination. It began in the popliteal and cubital fossae.

DISCUSSION

DR. STANLEY CRAWFORD: Having seen the child before and noting the array of diagnoses, none of which I agree with, I want to express my opinion that the disease is granuloma pyogenicum, following bites. The other possibility is that this condition is a type of papular urticaria, since some Negro children have large welts which become papular, although this is unusual. I had this in mind when I first saw the patient.

DR. L. G. BEINHAUER: The patient's mother stated that this condition appeared in the spring and lasted through the summer and fall and disappeared in the winter. I think the condition belongs to the prurigo group.

DR. F. M. JACOB: I think that one should be very careful about the seasonal question. Prurigo ferox is a diagnosis which should be made with fear and trembling. It is not seen in this region.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: I should like to agree with the diagnosis of traumatic nodules, probably secondary to bites. Concerning the seasonal occurrence, the bites were probably caused by mosquitoes and not by fleas, as fleas occur all the year around. I do not see how one can call the lesions pyogenic granulomas. They are too fibrous.

DR. C. L. SCHMITT: The lesions are fewer in the winter, although they are never entirely absent. She had various types of echthyma, both superficial and deep. Incidentally, the patient has improved greatly with a 5 per cent ammoniated mercury ointment.

A Case for Diagnosis (Tar Acne? Oil Acne? Iododerma? Acne Necrotica?). Presented by DR. A. FISHER, McKeesport, Pa.

H. B., a white man aged 43, presents a follicular eruption which affects the parietal portion of the scalp, the chest, the forearms, the lateral surfaces of the thighs and a few areas on the posterior surface of the thighs. The face, the hands, the buttocks and the feet are singularly clear. Each lesion is discrete. The lesions are generally small, varying in size from that of a pinpoint to that of a small split pea. Central pustulation is discernible in most of the lesions. On the lower extremities cyanosis is also present. The newer lesions are pinker and have central pustules, through which a hair can be seen emerging. The patient's occupation and the presence of the lesions chiefly on the covered surfaces, where the oil and grease may stay in contact with the skin for a longer time, and on the cap-covered areas of the scalp suggest the diagnosis of oil acne.

The eruption began two years ago on the chest and has gradually spread. The patient has taken anacin, acetylsalicylic acid, bromoseltzer and alkaseltzer in varying quantities for some time. In the past two months the eruption has spread rapidly. He has had various jobs, including that of filling station attendant and of automobile mechanic.

DISCUSSION

DR. F. M. JACOB: I hardly think that one can call this condition acne. It is a pustular folliculitis. It may well be due to contact with oil. I have seen the condition in a plumber, occurring where he carried pipe across his knees. There are no lesions on the shoulders or back; so I think that the diagnosis should be folliculitis, probably due to oil, rather than acne.

DR. J. M. SHELTON, Washington, Pa.: I saw a similar eruption in a patient who worked in a garage. He attributed it to the fact that he was in contact with the oil by being down in a deep knee bend, causing his trousers to press against his thighs.

DR. L. G. BEINHAUER: Do the presenters consider the lesions on the scalp the same as the others? I thought of the diagnosis as acne varioliformis.

DR. LESTER HOLLANDER: I think that the lesions on the scalp are exactly the same. My first impression was of acne necrotica. The lesions do not occur on the uncovered surfaces of the body. Therefore, the grease in the clothing is apparently the factor. He wears a cap exactly over the area where the lesions occur on the scalp.

DR. A. FISHER, McKeesport, Pa.: I did consider at one time a diagnosis of dermatitis medicamentosa, because the patient takes various drugs, but since the eruption is on the covered portions of the body only, it is probably an oil dermatitis.

Pityriasis Rosea; Herald Plaque on Foot and Dermatophytosis. Presented by DR. F. J. KRUGH.

D. S., a white boy aged 13, presents a discrete pea-sized to bean-sized scaly erythematous papular eruption distributed over the torso. On the dorsal aspect of the left second toe there is a large plaque. The lesion on the left foot preceded the eruption on the body by about two weeks. The lesions on both the foot and the body have been aggravated by previous treatment. Sulfur foam baths were used on the body, and a preparation for the treatment of ringworm was used on the feet.

DISCUSSION

DR. W. H. GUY: I think that the diagnosis of pityriasis rosea is acceptable. The only question to be raised is whether one is willing to accept the lesion on the foot as a herald plaque. It is possible that the patient had a herald plaque in that location and by virtue of friction the appearance is changed.

DR. H. M. FRIEDLANDER, Washington, Pa.: I had a child the other day with a typical tinea circinata in a ring around the eye. I tried to treat it and got no results, and in two weeks it was a typical pityriasis rosea.

A Case for Diagnosis (Psoriasis? Moniliasis?). Presented by DR. J. M. SHELTON, Washington, Pa.

J. S., a white boy aged 17, presents a somewhat bizarre eruption which affects the extremities and the tongue. Three nails of the left hand show dystrophic changes. The nail substance is piled up, lusterless and black. Similar dystrophy is noted in all of the toe nails. There are sharply defined scaly erythematous patches which are widely distributed. This definition is sharply noticeable wherever the large patches end. The tongue is large, fissured and of the typical scrotal type.

The patient has been under treatment since Jan. 17, 1938, with some improvement.

DISCUSSION

DR. EMERSON GILLESPIE, Canton, Ohio: Because of the sharp definition of this eruption on the legs and the fact that it spread up from the feet, I believe that it is some type of fungous infection from the feet. The lesions are sharply demarcated and spread from the feet over the legs and thighs.

DR. J. M. SHELTON, Washington, Pa.: Direct examination of the scales gave negative results. I have the culture on Sabouraud's maltose medium.

A Case for Diagnosis (Lichen Nitidus?). Presented by DR. A. FISHER, McKeesport, Pa.

W. D., a Negro aged 36, presents small purple papular lesions involving all parts of the body except the thighs and the feet. The palms and the penis are especially involved. The individual lesions are uniformly small. Many Koebner lines are present. Pruritus is not prominent. No lesions are present in the mouth.

The lesions began six months ago on the chest and gradually spread.

The Kahn test for syphilis gave a 3 plus reaction.

DISCUSSION

DR. F. M. JACOB: I was rather inclined to think that this condition was lichen planus. Dr. Guy and I have a case at present with lesions on the back of the neck which are similar to the ones on this patient's arms. The condition was considered lichen nitidus, but it does not respond to treatment. I am rather inclined to think that in both cases the diagnosis is lichen planus.

DR. M. W. RUBENSTEIN: Microscopic examination should differentiate them.

DR. A. FISHER, McKeesport, Pa.: The lesions are all sago-like, discrete and with no coalescence. In the literature it has been mentioned that lichen nitidus occurs on the palms, and this patient presents a typical picture of lesions on the palms, no lesions in the mouth and no itching.

DR. F. M. JACOB: I disagree that the lesions do not coalesce.

Hemiatrophy of the Face. Presented by DR. HOWARD T. PHILLIPS, Wheeling, W. Va.

M. P., a white girl aged 9 years, presents three bands of hard shiny brownish pigmented tissue which are atrophic and adherent with a sharp borderline *coup de sabre*. These bands extend from about 3 inches (7.5 cm.) above the hair line to the nose, separated by areas of approximately 1½ inches (4 cm.). There is atrophy of the right side of the nose and upper lip, and a small area of about half-dollar size at the back of the scalp. There is atrophy of the hair follicles giving rise to alopecia.

At the age of 1½ years the patient struck her forehead against the sharp edge of a door, and the mother believes that this resulted in the formation of the depressed lesion on the right side of the forehead. The mother also believes that the other two areas occurred after an accident in which the patient fell on a knife.

DISCUSSION

DR. L. G. BEINHAUER: I saw this patient about sixteen months ago at the request of a surgeon. The question was raised as to whether a plastic operation should be performed. The diagnosis at that time was scleroderma. There was a definite fixation of the forehead, but at present there is definite improvement.

DR. LESTER HOLLANDER: I agree with the diagnosis of scleroderma of the saber type.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: I thought the condition was sclerodermatous in origin. She has a lesion half of the size of the other on the scalp, which is probably the beginning of the same type of process. I saw her two years ago, and then when the article appeared in *The Journal of the American Medical Association* about the operative work that was done, I thought it worth while to investigate the girl from that standpoint. Since she has improved, I believe I shall give her some more absent treatment. A curious fact is that the mother can explain each lesion.

Epithelioma. Presented by DR. J. W. BARR and DR. W. F. WHITE, Johnstown, Pa.

C. A. W., a white man aged 53, presents a dollar-sized irregularly outlined, well defined, erythematous lesion on the right side of the lower part of the back. The border is slightly elevated and shiny. There are several pinhead-sized oozing areas scattered over the lesion. Near the lower border is a dime-sized elevated area of raw oozing tissue.

The patient states that for many years he wore a truss for a hernia. Eight year ago, at which time a herniorrhaphy was done, a quarter-dollar-sized area of erythema was noted at the site of one of the pressure points of the truss. This was asymptomatic, and nothing was done about it. Three or four years ago he noticed that a small area near the lower border had become crusted. This crust would fall off or be rubbed off by his clothing only to return.

The only treatment received has been "light treatments" at the office of a general practitioner about a year ago.

DISCUSSION

DR. J. M. SHELTON, Washington, Pa.: I agree with the diagnosis and believe the disease could be put into the category of Bowen's disease.

DR. STANLEY CRAWFORD: This condition is a typical morphea-like epithelioma and not Bowen's disease. I think that the periphery should be destroyed by roentgen rays and cautery and the center allowed to take care of itself.

DR. W. H. GUY: Lesions like this are presented at times as examples of superficial epithelioma and at other times as Bowen's precancerous dermatosis. They are actually very superficial basal cell epitheliomas, and they respond to therapy, which does not necessarily have to be vigorous. The majority of these conditions will clear by the use of solid carbon dioxide. It has been my exprience that several ugly scars have resulted from roentgen ray treatment of this type of lesion. It is the type of lesion for the use of a superficially acting chemical agent. The cautery would also suffice. I do not believe that heavy desiccation or irradiation is indicated.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va.: This condition is unusual. The patients I have seen with it have had from two or three to over one hundred lesions. Dr. Morginson treated the lesions by curettement, desiccation, cauterization and roentgen therapy, and the worst results were with roentgen rays. After a while one could see definite telangiectasia. The best results were from curettage. I did not use solid carbon dioxide.

DR. LESTER HOLLANDER: I agree with Dr. Guy and Dr. Phillips. I disagree with the statement that all of these conditions are benign. I have records of 2 patients with clinically similar lesions, with results of microscopic examination; in both patients interpulmonary carcinoma developed and they died. The patients were men about this patient's age. These conditions are not as simple to treat as some would seem to think. They are clinically very superficial epitheliomas.

DR. HOWARD T. PHILLIPS, Wheeling, W. Va. Dr. Hollander's patients may have died from pulmonary carcinomatosis, but that does not prove that the disease was metastatic from lesions of this kind. I do not see how pulmonary metastases can arise from them.

DR. J. M. SHELTON, Washington, Pa.: It is not well known, but in most of the textbooks it is stated that Bowen's disease will metastasize as Bowen's disease. I think that Dr. Schmitt and Dr. Friedlander will remember slides in which Dr. Satenstein demonstrated this.

DR. STANLEY CRAWFORD: Bowen's disease is a dyskeratotic prickle cell epithelioma and has nothing to do with basal cells.

DR. F. M. JACOB: Bowen's disease needs even further explanation than that. If the condition is Bowen's disease, it is not an epithelioma; if it is an epithelioma, then it is not Bowen's disease, because the latter is a precancerous dyskeratosis. The intraepithelial type of superficial epithelioma I do not believe will metastasize, as Bowen's disease does.

Acrodynia. Presented by DR. J. W. BARR and DR. W. F. WHITE, Johnstown, Pa.

T. T., a white boy aged 22 months, was brought to us by his parents on Oct. 15, 1940. He had on the hands, fingers, feet and toes an eruption of four months' duration consisting of edema, fissuring, erythema, ruptured and unruptured vesicles and bullae and on the palms an apparent keratosis. At times he has had a rather extensive general erythema covering large portions of the trunk and extremities. He sleeps poorly, seldom sleeping through an entire night, cries and frets a good deal and lies on his stomach with his thighs flexed along the sides of his body and his legs fully extended.

The baby was entirely breast fed for the first eight months and was on a formula during the next twelve months, which was supplemented by orange juice, green vegetables and vegetable juices. Recently he has refused to take large amounts of orange juice. He now drinks milk from the glass. He has been fond of cod liver oil and will take it in large doses; in fact, he will keep on drinking it until the parents refuse to give him more.

His family physician has seen him more or less regularly, has dispensed various ointments and tablets, the contents of which we do not know. Otherwise he has had no known treatment except calamine lotion and ⅛ grain (8 mg.) of thyroid three times daily for the past two days.

DISCUSSION

DR. STANLEY CRAWFORD: I agree with the diagnosis of acrodynia. The patient shows the characteristic flabbiness, the pinkness of the toes, the puffiness and the parallel swellings of the feet. He does not show much photophobia, so the condition is an acrodynia sine photophobia. The child apparently feeds well, which is favorable, because if the patients eat they will recover. I would rather keep them at home than hospitalize them because of the danger of pneumonia. With the administration of vitamin B_1 and cod liver oil they usually recover.

DR. LESTER HOLLANDER: I suggest the diagnosis of epidermolysis bullosa hereditaria.

NOTE.—Two months later, after treatment with vitamin B_1, the baby was reported as practically well.

Xanthoma Tuberosum Multiplex. Presented by DR. L. G. BEINHAUER and DR. S. R. PERRIN.

C. C., a white man aged 24, first noted multiple small tumors on his elbows and knees in April 1940. These continued to increase in number and spread over the forearms and legs. He has been under treatment for essential hypertension and last month underwent a herniorrhaphy.

When we first saw him he had hundreds of small tumors, varying in size from that of a pinpoint to that of a pea. While he has been in the hospital many of the lesions have disappeared.

DISCUSSION

DR. FREDERICK AMSHEL: I agree with the diagnosis, but I also think that the patient has psoriasis. There are typical scaly lesions on the elbows and knees and in the scalp.

DR. L. G. BEINHAUER: I agree that the body lesions are psoriasis. Incidentally, the patient was given a low fat diet for the xanthoma, but no improvement has been noted.

Angioma Serpiginosum. Presented by DR. W. H. GUY and DR. FREDERICK AMSHEL.

S. S., a white woman aged 38, who was presented at the September meeting, is again presented to demonstrate the results of ultraviolet irradiation. The eruption, which involved both legs, is now limited to a few isolated patches.

DISCUSSION

DR. W. H. GUY: The general history is that the condition began with a single lesion on the right ankle, spread up the leg to the thigh, crossed the midline and spread to the other leg. Histologically, it was a low grade inflammatory process with endothelial proliferation. The case was accepted in September as one of angioma serpiginosum. She was given erythema doses of ultraviolet radiation. If one can visualize the patient with solid involvement of the legs, then one can realize the improvement.

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EDWARD R. MALONEY, M.D., *President*

J. GARDNER HOPKINS, M.D., *Secretary*

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Oriental Sore. Presented by DR. J. GARDNER HOPKINS.

J. J., a girl aged 5 years, child of American parents, left Teheran, a province of Persia, in June and passed through Delhi, India, on the way to the United States. Leishmaniasis, known locally as "salek," meaning "a little year," is prevalent in Teheran, and there were sand flies about at the time she left. Two months later a painless red nodule developed in the center of her left cheek. It has grown slowly and now shows a dusky red disk measuring 1 cm. in diameter, scarcely raised and covered with intact epidermis. Beneath is a hard mass somewhat larger than the red area.

Examination of material obtained by puncture showed numerous typical leishmania bodies, all extracellular.

DISCUSSION

DR. HOWARD FOX: I have previously reported on 2 patients (*New York M. J.* **116**:365, 1922) with oriental sore who had come from Persia, where the disease is prevalent. I doubt whether any one could make a clinical diagnosis in this case at present. The diagnosis was suggested by the history given by the mother and was confirmed by the finding of leishmania bodies.

DR. J. GARDNER HOPKINS: The accepted agents for treatment seem to be solid carbon dioxide, roentgen rays, antimony and potassium tartrate and emetine hydrochloride. Does any one know of any more recent method of therapy?

DR. HOWARD FOX: The late Dr. Walter Booth Adams, of Beyrouth, Syria, was partial to treatment of oriental sore with solid carbon dioxide. His experience with this disease was extensive.

Vascular Nevus with Spontaneous Involution. Presented by DR. J. GARDNER HOPKINS.

J. L., a girl aged 4 years, had at birth a vascular nevus of the interscapular region which was soft, slightly raised and scarlet, apparently a typical strawberry mark. When the child was seen at the age of 18 months, the lesion measured 15 by 21 mm. and was slightly raised. The surface had whitened somewhat but was studded with deep red points. In the belief that the type of nevus known as the strawberry mark almost invariably disappears spontaneously, no treatment was advised. Today the area is flat; a few red dots and a red line about the border are still visible.

The case is presented for opinion as to the frequency of spontaneous disappearance of such lesions.

DISCUSSION

DR. GEORGE M. MACKEE: I have always felt that the majority of angiomas, that is, either the strawberry mark or the cavernous lesion, disappear spontaneously in the course of time, but I have never been able to prove it definitely. One reason I have thought so has been that these angiomas are exceedingly common in children and infants and very uncommon in adults. One is occasionally seen in an adult which has not undergone spontaneous involution, but I have never watched one over a period of years and seen it actually disappear. The unusual feature in this case, I think, is the fairly rapid disappearance. The patient is still a child, and the lesion is gone. I believe it takes much longer than that as a rule.

DR. FRED WISE: The implication to be drawn from this case is that elevated angiomas have a tendency to heal spontaneously. This is a well known fact. Nevertheless, the parents frequently insist on the removal of such lesions, and therefore when they are in conspicuous locations I am accustomed to treat them with radium plaques, especially in infants.

DR. JOSEPH J. ELLER: Occasionally traumatism may cause spontaneous involution of this kind of lesions. Perhaps this lesion was traumatized unknown to the child's mother.

DR. HOWARD FOX: I agree with the preceding speakers. This subject has been discussed before at dermatologic meetings. I have long felt that all hemangiomas of infants disappear spontaneously before adult life is reached. Some of them are traumatized accidentally, but unquestionably many of them are not treated.

DR. PAUL E. BECHET: I have also noted the occasional disappearance of raised vascular nevi, but while I admit that spontaneous involution is a possibility, I believe that trauma is a much more frequent cause of their disappearance. I have not infrequently noted even large vascular nevi disappear from the buttocks of children after injury from safety pin pricks in changing the diaper, from a rough setting on a ring on the mother's finger while she is bathing the baby or even from self scratching or picking by the baby. I observed some years ago a child with a large greatly raised angioma involving the eye and extending from the infraorbital region to the hair line on the forehead. The eye was completely closed, and pus exuded from it. About an inch (2.5 cm.) above the eye was an ulcerated area which, according to the father, bled freely whenever the child cried. It had been present for only a week. I gave the father a prescription for a boric acid ointment, as a placebo, to be used until I could get a report from an ophthalmologist as to the condition of the eye. The patient did not return. Some years later the boy came to the office for the relief of neurodermatitis of the cubital fossae and popliteal spaces. The enormous angioma had entirely disappeared, leaving a perfectly smooth superficially atrophic area, and the eye was normal. The cosmetic result was excellent. To my intense surprise the father stated that the ulcer on the lesion had increased in size for a week and that subsequent to some sloughing the lesion rapidly disappeared. He ascribed this miraculous result to the boric acid ointment I had prescribed.

DR. EUGENE F. TRAUB: The question which Dr. Hopkins has raised is one that I took up about ten years ago, at which time I wrote a questionnaire which I mailed to all the members of the American Dermatological Association. I asked them the following questions: 1. Have you personally observed vascular nevi of any type disappear spontaneously? How often? 2. Did this disappearance result because of ulceration of the lesion? Trauma?

The information obtained from this questionnaire was incorporated in a brief article, "Should Vascular Nevi be Treated?" (*Arch. Pediat.* **50**:272 [April] 1933). Less than 10 per cent of the dermatologists had observed the spontaneous disappearance of a naevus simplex, a naevus flammeus, a naevus araneus, a hemangioma or a cavernous angioma in more than a very few instances; about 63 per cent had observed such a disappearance rarely in 1 or 2 cases, and 27 per cent had never noted a spontaneous cure during their entire period of practice. Pollitzer, John Butler and White felt that only those on infants were likely to disappear. Schamberg stated that regression took place in "slight ones only and then rarely"; Wallhauser and Michael commented that when it occurred the "disappearance was partial, never complete." A number of physicians thought that most of the angiomas disappeared spontaneously even though they had never personally seen this take place, because they encountered angiomas so rarely in adult life.

Because of the differences of opinion and particularly because the majority of the dermatologists had not personally seen many vascular nevi disappear, I followed a large number of patients with this condition. The patients were given

petrolatum or boric acid ointment as a placebo, to be applied locally. Frequently children with several angiomas were treated in this way; one of the lesions was given the usual radium treatment, and the other angiomas were left untreated. In a number of such cases I have observed complete disappearance of an angioma without any local application and without ulceration or trauma having been a factor. In the majority of the cases, however, possibly because of trauma ulceration took place and the final cure of the angioma resulted in an unpleasantly scarred area; occasionally the disappearance was incomplete, requiring subsequent follow-up measures. The cosmetic result is never as good following ulceration as that which can be achieved by proper radium treatment given at an early age. When involution is incomplete and treatment must be given, the end result is also not as good. Because there is no control or certainty as to the course of an angioma left untreated, I believe it is better to treat it as early as possible and by a method that seems best indicated for the individual case. Usually radium has been the method of treatment of first choice, but certainly in some cases excellent results are obtained with the injection of sclerosing agents or with solid carbon dioxide. The fact that all types of vascular nevi are found in adults is proof that all lesions of this kind do not disappear spontaneously. One is, of course, at once confronted with the problem as to whether the condition in a given case will or will not disappear left untreated. The fact that there seems to be no way of knowing when such spontaneous disappearance will actually take place and that a delay of a number of years waiting for spontaneous involution may jeopardize success of later treatment, I believe, is reason for advocating early treatment. In the cases that I have followed, spontaneous disappearance usually took place fairly promptly, generally before the child reached its fifth year and more commonly even before the child became 3 years of age. To refer specifically to the case presented today, this lesion undoubtedly healed because of preceding ulceration. While the scar is smooth, there is a distinct scar present, and there are still a number of blood vessels to be seen. If this lesion had been located on the face, I do not believe the patient would look on this end result as a particularly good one. In this case I believe that early treatment which might have prevented the ulceration from taking place might have given a better end result.

Dr. J. Gardner Hopkins: Dr. MacKee presents the problem as it struck me. I do not think I have ever seen a strawberry mark in an adult, and I presented this patient in order to learn the experience of others. I have often advised against treatment of these lesions and have been told by the pediatrician in charge that this stand is not supported by any authority. Most textbooks mention spontaneous disappearance but do not discuss its frequency. I believe the typical strawberry mark disappears almost invariably, but I have far too few data to be certain. Dr. Traub brought up another point of interest: It is important to know whether scarring and atrophy are more conspicuous after spontaneous involution than after treatment.

I have had another case recently in a child whom I saw first at the age of 8 months. There were three minute raised angiomas on the face, arm and thigh respectively. I treated those on the face and arm by light electrodesiccation and left that on the thigh untreated. I saw the child again at the age of 4 years. There were faint but visible scars at the sites of the treated lesions, but I could find no trace of the one which had not been treated.

Morphea. Presented by Dr. Eugene F. Traub.

J. A. S., a woman aged 49, presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, first noted a single lesion on her right temple six years ago. The lesion has gradually increased in size until it now measures between 4 and 5 cm. in diameter. The surface is slightly irregular, and there is a raised, moderately hard, elevated border. The lesion is

somewhat waxy in appearance and shows slight erythema about the border. A clinical diagnosis of morphea-like epithelioma was made, but histologic examination by Dr. Earl D. Osborne showed no evidence of epithelioma and confirmed a diagnosis of morphea. To date the patient has received two lightly filtered doses, a fraction of the erythema dose, of roentgen rays, without improvement.

DISCUSSION

DR. FRED WISE: I think the condition is probably morphea at the site of removal of the biopsy specimen, but another area might show epithelioma microscopically. However, I do not dispute the diagnosis of morphea on clinical grounds.

DR. GEORGE M. MACKEE: Clinically I think the condition might be either morphea or morphea-like epithelioma. The lesion has a violaceous areola which is suggestive of morphea. On the other hand, the nodulation and the telangiectasia suggest epithelioma. The infiltration and atrophy may occur in either condition. The histologic picture might be misleading. A sclerosing epithelioma in certain areas might be mistaken for morphea histologically. At present the weight of evidence is in favor of morphea, but I should like to know the results of additional histologic study before making an unequivocal diagnosis.

DR. R. H. RULISON: From clinical observation I suspect that this lesion is malignant.

DR. PAUL E. BECHET: The yellowish color is typical of localized morphea Telangiectasia can sometimes occur in the center of a patch of morphea. I could not discern any raised border at all. The border was slightly violaceous, which one might expect in a localized patch of morphea. For these reasons I agree with the diagnosis of morphea.

DR. FRANK C. COMBES: I agree with the diagnosis of morphea. The border, of course, is slightly elevated, as is sometimes seen in morphea after the stage of atrophy occurs. However, it is soft and can be flattened out. The small nodule mentioned I took to be a milium.

DR. EUGENE F. TRAUB: The reason for presenting this patient was the close clinical resemblance of the condition to a morphea-like epithelioma. Dr. Earl D. Osborne, who happened to see this patient first, also thought of this possibility, and it was for this reason that the biopsy was performed.

Papulonecrotic Tuberculid. Presented by DR. HOWARD FOX.

H. M. E., a married woman aged 48, was first seen by me on Sept. 3, 1940. She then had a symmetric eruption of two weeks' duration, which involved the face and to a slight extent the neck. It consisted of discrete papules the size of a millet seed, which were bright red and smooth. They caused no subjective symptoms. Possible diagnoses at that time were iododerma and rosacea. However, she gave no history of taking iodides or bromides, but she had taken a patent preparation containing phenolphthalein for years without ill effect. Two weeks later the eruption increased in extent, a few papules appearing on the extremities and on the inner surfaces of the labia majora. The papules assumed a rather typical lean ham color and closely resembled a papular syphilid. At that time the throat was red and the patient complained of general malaise and pain in some of the larger joints. However, examination of material from the papules on the face and on the vulva by the dark field method failed to show spirochetes. In addition, the Wassermann, Eagle and Kahn tests performed by an experienced serologist gave negative results. A week later some of the papules softened and became crusted, and eventually small pitted scars appeared, which made the diagnosis of a tuberculid almost certain. Since then she has received two injections of a bismuth compound and one of neoarsphenamine, with moderate improvement though much less than one would expect in syphilis.

DISCUSSION

The members agreed unanimously with the diagnosis as presented.

DR. HOWARD FOX: I am glad to have unanimous agreement with my diagnosis but wish the members could have seen this patient a month ago, when the eruption so closely resembled a papular syphilid. I felt chagrined that I had missed the diagnosis and was dumfounded when the tests failed to show the presence of syphilis. When the pitted scars appeared and general symptoms abated, the diagnosis of tuberculid seemed to be clear.

Raynaud's Disease; Radiodermatitis? Presented by DR. HOWARD FOX.

K. R., a married woman aged 40, was operated on for goiter in 1916. In February 1924 she suffered from erysipelas, which was followed four months later by Raynaud's disease. She gives a typical history of sudden attacks of "white, dead" fingers, especially during cold weather. She has been seen by a number of physicians during these attacks, all of whom agreed with the diagnosis of Raynaud's disease. Parts of two fingers have been amputated for gangrene, and at present she has an area of gangrene on the radial surface of the last phalanx of the right middle finger. Some of the other fingers are rather pointed.

Beginning in 1921 she worked for three years as a technical assistant to an advertising charlatan who treated hypertrichosis with roentgen rays. During this period of service or possibly before it (she is uncertain of the date) a rather extensive eruption appeared on her body. This now involves the entire chest, the upper parts of the breasts, the deltoid region, the upper two thirds of the extensor surfaces of the arms, the upper half of the back and, to a lesser extent, the clavicular region. The eruption consists of innumerable telangiectases which are not associated with any appreciable pigmentation or atrophy. No keratoses are present. The eruption has not progressed during the past fifteen years. The general health is good.

DISCUSSION

DR. GEORGE C. ANDREWS: I cannot conceive of Raynaud's disease being caused by the roentgen radiation to which this woman was exposed, although I believe the telangiectasia on the chest and shoulders is due to the roentgen rays. I cannot see how the Raynaud's disease can be due to such soft rays. All persons are exposed to a great deal of irradiation with soft rays. I do not see how it could affect the underlying bones and tissues to such a degree.

DR. HOWARD FOX: I should like to hear a discussion on, first, the possible relation of Raynaud's disease to roentgen ray exposure and, secondly, whether the eruption on the trunk is a radiodermatitis or possibly poikiloderma.

DR. GEORGE M. MACKEE: I do not think the Raynaud's disease is secondary to the exposure to roentgen rays. The telangiectases on the shoulders and back may have been caused by roentgen rays.

DR. R. H. RULISON: I agree with Dr. MacKee.

DR. EUGENE F. TRAUB: This patient presents some telangiectasia of the fingers, which in my experience is not a part of Raynaud's disease, and if this is true she undoubtedly has some changes on the fingers which might be looked on as sequelae of roentgen therapy. The telangiectasia on the chest would seem to be explained best on the basis of being a change due to exposure to roentgen rays.

DR. A. BENSON CANNON: I think that the condition on the extremities is undoubtedly due to Raynaud's disease, but I question whether the telangiectasia on the chest was caused by radiation. It seems unlikely that so extensive and decided a telangiectasia could be caused by radiation without atrophy or pigmentation also being produced. The dilated blood vessels appear to be in normal skin. Knowing that Raynaud's disease is a vascular condition, I should think it highly probably that the telangiectasia could be explained by the same process.

DR. FRANK C. COMBES: I thought along the same lines as Dr. Cannon. On palpation of the chest the skin is rather brawny and thickened in appearance rather than atrophied. I thought of some neurovascular disturbance due to absorption of roentgen rays for some time, possibly of thyroid origin. I should be very interested to know what the patient's basal metabolic rate is. The condition on the chest does not seem to me to have the appearance of a direct result of the action of roentgen rays on the integument.

DR. SAMUEL M. PECK (by invitation): I agree with Dr. Cannon. Widespread lupus erythematosus is sometimes seen which may become associated with changes resembling those of Raynaud's disease. This process may even result in changes resembling sclerodactylia. The entire process is based on a vascular involvement. This patient has widespread telangiectatic lesions not only on the chest but on the arms, forearms and fingers. It seems to me that the condition is a generalized vascular disturbance with changes like those of Raynaud's disease. Whether the cutaneous manifestations are the sequelae of her exposure to roentgen rays cannot be assumed with any certainty.

DR. FRED WISE: My impression is the same as Dr. Cannon's, that the vascular changes are not due to roentgen rays. A histologic examination of the vessel walls would determine the true character of the telangiectasia.

DR. EUGENE F. TRAUB: Does telangiectasia, such as that in this patient, ever occur with Raynaud's disease? My recollection of the textbook description of this condition is that mention was made not of telangiectasia of the fingers but rather of blanching of the fingers and of a distinct absence of superficial vascularity.

DR. HOWARD FOX: There are only a few telangiectases on the fingers and on the face. This was surprising to me in view of the long exposure to roentgen rays. It is also hard to understand why atrophy and pigmentation are absent on the body if the process is due to the roentgen rays. I was glad to hear the opinions of Drs. MacKee and Andrews that Raynaud's disease cannot be caused by exposure to roentgen rays.

A Case for Diagnosis (Nevus or Melanoma). Presented by DR. HOWARD FOX.

B. B., a married woman aged 43, a trained nurse, first noticed a dark spot on her left cheek five years ago. She stated that for the first four years it was the size of a pin prick. One year ago she squeezed it, being under the impression that it was a blackhead. Since then it has gradually increased to the size of a small pinhead. It has caused no subjective symptoms. The lesion is of a deep purplish color, which disappears almost entirely under diascopic pressure. She has been seen recently by numerous physicians, some of whom considered the lesion to be a nevus while others thought it was a malignant melanoma. She is willing to have it excised for histologic study.

DISCUSSION

DR. EUGENE F. TRAUB: Dr. Fox let me see this patient with him a few days ago, at which time I got the impression, because of the blue color, that the lesion might be a blue nevus. I felt absolutely certain that it was not a melanoma. Today the lesion appears to me to be more vascular than pigmented, and while diascopic pressure does not entirely obliterate the lesion, it does blanch out 75 per cent of it at least. It is therefore possible that the entire lesion may be a vascular growth and not a blue nevus. It can certainly be looked on as a benign lesion. For this reason a tiny excision would get rid of the growth and at the same time permit a histologic examination, which would settle the diagnosis. I do not believe this patient should be subjected to the mental worry of continued observation when such a bad prognosis has been given her elsewhere.

A radical removal, of course, need not be done unless something suspicious is found histologically, and this seems most unlikely.

DR. J. FRANK FRASER: I think this lesion is a benign blue nevus. I had the opportunity a few weeks ago of observing a similar case at the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital. The gross appearance was almost exactly the same. Biopsy was performed, and the histologic picture was that of a blue nevus. In regard to treatment, the facts that the lesion has been present for five years and that there is no gross evidence of malignant transformation should make the procedure of surgical excision perfectly safe. On the other hand, if the patient does not wish the lesion removed, I feel that no harm would come by leaving it alone. I should prefer excision, because then a definite diagnosis could be established.

DR. A. BENSON CANNON: I should make a diagnosis of angiomatous lesion rather than blue nevus or melanocarcinoma, although, to be frank, I sometimes find it difficult to distinguish one condition from the other. It is a relatively simple matter to differentiate between the two by simply paring off the lesion under local anesthesia and taking pains to blanch the parts by squeezing the skin between the thumb and index finger. One can readily tell angioma from melanoma by this method. Should the lesion be a melanocarcinoma, thorough removal by electrocoagulation should be done immediately, while the skin is still blanched with the pressure of the fingers. I have found this method most useful on several occasions when it has been a question of diagnosis between nevus and hemangioma.

DR. SAMUEL M. PECK (by invitation): For many years I have been convinced that removal of ordinary moles, including blue nevi, is a relatively safe procedure, as far as the development of melanocarcinoma is concerned. Even what can be classified histologically as early melanoma does not need very wide excision to prevent dissemination. This question is of importance when the lesion is in an area where wide removal would lead to mutilation. However, I would be reluctant to use trichloroacetic acid in any lesion in which the slightest possibility of malignancy is possible.

DR. JOSEPH J. ELLER: I believe this lesion is benign; it is either a blood vessel nevus or a blue nevus. I recommend a biopsy.

DR. GEORGE C. ANDREWS: I agree with Dr. Eller.

DR. GEORGE M. MACKEE: I am unable to make a diagnosis. I would certainly favor excision for the purpose of diagnosis. I have been fooled in a number of cases like this, in which the lesions microscopically were cysts, sometimes blood cysts, often connected with the sebaceous glands. Such cysts may last for years.

DR. R. H. RULISON: I think this lesion can be removed without any great risk, provided, as Dr. Fraser said, the excision although not necessarily wide is deep.

DR. HOWARD FOX: In my opinion this lesion is probably benign, but I realize that microscopic examination is necessary to prove it.

NOTE.—The lesion was later excised and a histologic examination was made by Dr. T. J. Riordan, who gave the following report: "The sections were small because the size of the material made it necessary to cut transversely. There were no noteworthy epidermal changes. The cutis showed many hair follicle structures. There was no evidence of nevus. On one extreme side a relatively large incomplete cavity filled with closely packed erythrocytes was noted. It was considered a vessel cavity because of the regular undisturbed clumping of the red cells, because it had a wall lined with flat cells, because the epidermis was humped above and because follicles on either side bulged in the direction of the outline of the cavity. My diagnosis is angioma."

Dermatomyositis. Presented by Dr. George C. Andrews.

E. C., a woman aged 36, first consulted me two days ago. Five years ago thyroidectomy was performed for exophthalmic goiter. Last year she was treated for metrorrhagia by roentgen rays over the ovarian region. She first became sick two weeks after this roentgenotherapy, in December 1939, with mild fever, great weakness, hoarseness and a cutaneous eruption. The eruption began first on the backs of the hands and rapidly spread to the forearms, face, shoulders and legs. There was considerable swelling of the eyelids. The abdomen has remained free of lesions, and there have been only a few on the chest and shoulders. After about two weeks the acute symptoms subsided, but the lesions have persisted and there have been persistent edema and redness of the face, progressive muscular weakness, that has involved first one group of muscles and then another, and hoarseness, which is still present. The patient does not think that she has had fever in recent months, but the rectal temperature at the time of her first visit was 100.6 F.

Examination shows edema of the eyelids and an erythematous blotchy eruption about the back of the hands, the forearms, the face and the neck. The lesions on the knuckles resemble lupus erythematosus. Complete physical examination by her family physician showed no abnormalities. An otolaryngologist reported that the nose and throat were normal.

The Wassermann reaction of the blood was negative. A blood count and the urine were normal.

DISCUSSION

Dr. J. Gardner Hopkins: The classification of chronic degenerations of the skin and muscles like this is confused. The condition started with fever like an acute dermatomyositis, and there now are poikiloderma-like changes. There is no great atrophy of the muscles, although the patient says she is weak. The condition would seem now to belong more in the category of poikilodermatomyositis.

Dr. Eugene F. Traub: There were several interesting points not previously mentioned in the history on which I should like to have Dr. Andrews' comment. The patient stated that she had received roentgen ray treatments over the pituitary area and also over the pelvic area for painful menstruation and that her present symptoms appeared about a week after this treatment was instituted. There probably is no relation to the present condition, for the onset was too prompt and as she had only three roentgen ray treatments the total dose was probably very small. She had to give up the roentgen ray treatments because of the progress of the present disease. Another interesting feature in the history is that her diet has been peculiar and might conceivably have some bearing on her present trouble.

Dr. Howard Fox: Does Dr. Hopkins consider this condition dermatomyositis or poikilodermatomyositis, similar to the condition in a patient he presented before another society (Arch. Dermat. & Syph. **41**:790 [April] 1940)?

Dr. J. Gardner Hopkins: This patient has some features of both conditions. The disease began with fever and swelling like dermatomyositis, while the lesions on the face and the atrophy look like poikilodermatomyositis.

Dr. Joseph J. Eller: I wonder what the 13 per cent eosinophils means in this case. Might the condition be due to parasites, as is, for instance, trichinosis?

Dr. George M. MacKee: I think the condition in this case may be classed as poikilodermatomyositis.

Dr. George C. Andrews: The patient received three roentgen ray treatments over the ovaries and the pituitary region. However, after the second treatment the patient began to feel ill. It has been agreed that this condition had nothing to do with these roentgen ray treatments, but she has it in her mind that it did. The eruption on the hands and the swelling of the eyelids began about a week before the third roentgen ray treatment, which was given in spite of the eruption being present. Then she stopped taking the treatments.

Trichophytosis (Due to Trichophyton Purpureum?). Presented by Dr. J. Frank Fraser.

R. H., a man aged 52, presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, gives a normal family history and personal history with the exception of the cutaneous condition. He has had abnormal nails for the past twenty years. The condition was diagnosed as psoriasis at a large New York clinic. He presents an eruption involving all the finger nails and toe nails, the hands and the face.

Direct examination of material from the lesion on the face and from the finger nails showed Trichophyton. The cultures were contaminated.

The case is presented as an instance of an eruption caused by Trichophyton purpureum.

DISCUSSION

Dr. J. Gardner Hopkins: There are hyperkeratotic lesions on the hands and noninflammatory lesions on the face, and the reaction to a trichophyton test is negative, all of which are features that Lewis has described as appearing in T. purpureum infections.

Dr. Howard Fox: If the nails of all the fingers and toes are infected with a ringworm fungus, the case from this standpoint alone is a rarity.

Dr. Joseph J. Eller: I had a patient who had a fungous infection of twenty nails. I removed all the nails, and they grew back normally.

Note.—Subsequent scrapings from the nails of the hands and feet and from the cutaneous lesions have proved the diagnosis as presented, namely, T. purpureum infection.

Incontinentia Pigmenti (Bloch-Sulzberger); Chromatophore Nevus (Naegeli). Presented by Dr. J. Gardner Hopkins.

J. R., an American Negress aged 2 years, was presented before the New York Academy of Medicine, Section of Dermatology and Syphilology, on Oct. 1, 1940, by Drs. J. Gardner Hopkins and G. F. Machacek (Arch. Dermat. & Syph. **43**:728 [April] 1941).

DISCUSSION

Dr. Samuel M. Peck (by invitation): I have always thought that the condition in cases of this kind was not named correctly. "Incontinentia pigmenti" as I first understood the term meant an inability of the epidermis to get rid of its melanin in the usual fashion. Ordinarily when melanin is formed by the basal cells, it is carried upward by the growth of epidermal cells and is discarded through scaling. There are no chromatophores formed if there is no inflammatory reaction. This is best seen in embryologic pigment formation in rabbits; masses of pigment are formed in the epidermis just before and after birth, with complete disappearance finally of the pigment without any evidence of chromatophores. However, as soon as pigment is formed with accompanying inflammation, chromatophores appear. The basis for the appearance of pigment in chromatophores or even free in the cutis is the inability of the epidermis, because of inflammatory or other changes, to carry the pigment upward. Since melanin is slightly soluble in serum, it is probably carried below the epidermis through this medium and then is precipitated. This is seen in lichen planus, for instance, in which, owing to the edema at some stages, nearly all of the pigment formed is deposited below the epidermis. If so-called incontinentia pigmenti is really based on such a mechanism, then one would expect some inflammatory reaction, or at least a changing clinical pattern as far as the pigment is concerned, but this is not seen. It would have to be assumed that this condition is a nevus in which, for some unknown reason, the pigment which is formed in the epidermis is especially soluble in the tissue fluids and thus is carried below the epidermis into the fixed tissue histiocytes, which form a permanent pattern or, in other

words, a chromatophoric nevus. This explanation certainly would allow a diagnosis of incontinentia pigmenti to be made in only a limited number of cases. I am sure that most of the patients presented with this diagnosis really represent a form of autotattooing with melanin. In most instances they present no more than persons with increased pigment in the epidermis and inflammatory edema of the basal cells and overlying layers, which cause melanin to be deposited below the epidermis instead of discarded in the usual way.

DR. J. FRANK FRASER: Sulzberger, Hutner and I reported a case (ARCH. DERMAT. & SYPH. **38**:57 [July] 1938) in which there were associated congenital abnormalities, malformation of the teeth and blindness in one eye. The gross appearance of the pigmentary disturbance was exactly the same as in Dr. Hopkins' case. As Dr. Peck said, there was no inflammatory reaction. The pigment was both intracellular and extracellular. I should like to ask Dr. Hopkins whether in the majority of cases this pigmentary disturbance appears alone or is complicated with other abnormalities.

DR. J. GARDNER HOPKINS: In most reported cases this dermatosis has been associated with other congenital abnormalities. My curiosity did not go as deep as Dr. Peck's, but I cannot understand the configuration or the pattern in this case. Grossly, the striking feature about these lesions is the bizarre pattern, which is unlike that of any other dermatosis. The involved areas do not correspond to metameric segments or to areas of nerve distribution. They are not circular or serpiginous, as are lesions determined by vascular distribution. Some of the little wavy lines and spider-like lesions resemble the distribution of the lymphatics. Supporting this idea is the fact that many of the chromatophores evidently lie in the perivascular lymph spaces and, as they are wandering cells, might well move out along the lymphatic channels. However, the whorls seen on the trunk resemble no anatomic pattern I know of except that of hair direction. Hair at the vertex of the scalp usually forms whorls, and the body hair in some persons forms whorls. This suggests that there may be a relation between this type of nevus and hair growth.

Keratosis Follicularis. Presented by DR. FRANK C. COMBES.

C. N., a woman aged *26*, presented from Bellevue Hospital, shows an eruption on her forehead, neck and extremities. The lesions began nine years ago and are becoming progressively worse. They consist of firm pinhead-sized to pea-sized grayish and reddish follicular papules. Most of the lesions are discrete, but there is some confluence, especially on the dorsa of the hands. The palms and soles are covered with keratotic patches. In the latter location the keratosis is over *2* cm. in depth and covered with deep fissures, which make walking painful. Otherwise, there are no subjective symptoms.

The patient's great-grandmother, grandmother, mother and *2* uncles are known to have had the same condition. The patient is an only child.

DISCUSSION

DR. JEROME KINGSBURY: Forty-two years ago the great-grandmother of this patient first came under my observation. I recall that 3 nephews and, I believe, some other members of the family also had the disease. The great-grandmother was a patient in the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital for many years, and a nephew had a long sojourn in the City Hospital. The expense to the community for the hospitalization of this family has been considerable, and the therapeutic results have been insignificant.

DR. EUGENE F. TRAUB: At one time I had four generations of this family under treatment at the same time, all females, and, as I recall, they all had the same peculiar appearance of the palms and soles. They received roentgen ray treatment with considerable temporary benefit.

DR. SAMUEL M. PECK (by invitation): With the permission of Dr. Fox, I can discuss our research in this disease, which will appear in an early issue of the ARCHIVES. I believe that we have been able to shed light on the causation of keratosis follicularis. Our studies indicate that patients with this condition on a normal diet have a considerable decrease in the vitamin A content of their blood serum. The carotene (provitamin A) content of their blood serum is normal. When these patients are given large amounts of vitamin A by mouth, the blood serum content of vitamin A slowly comes back to normal, and there is a slow but definite improvement in the cutaneous condition. Apparently patients with this disease also show a definite decrease in dark adaptation, which is another indication of their vitamin A deficiency. The disease is apparently due to an inability to absorb vitamin A or to convert carotene. It can therefore be looked on as a physiologic nevus, since the condition in many cases is congenital and hereditary.

Inveterate Lupus Erythematosus: No Improvement After Prolonged Aurotherapy and Bismotherapy. Presented by DR. PAUL E. BECHET.

E. R., a woman aged 28, was previously presented before this society by Dr. Fred Wise on Feb. 28, 1939 (ARCH. DERMAT. & SYPH. **40**:514 [Sept.] 1939). Among the therapeutic agents suggested were sulfanilamide, bismuth and a salt-free diet. The patient is again presented, twenty months later, without improvement despite prolonged treatment with a bismuth compound.

Physical examination showed presystolic and systolic soft murmurs over the pulmonary area. The blood pressure was 120 systolic and 90 diastolic. The tuberculin test elicited a 4 plus reaction to a 1 to 10,000 dilution and a 1 plus reaction to a 1 to 100,000 dilution. The results of chemical examination of the blood and a differential blood count were normal. Roentgenographic examination of the lungs gave negative results. The Wassermann and Kahn reactions were negative. Examination of a twenty-four hour specimen of urine demonstrated urobilin in large quantities and 221.3 micrograms of coproporphyrin.

Therapeutic suggestions will be welcomed.

DISCUSSION

DR. HOWARD FOX: I suggest either intradermal injections of a gold salt or light freezing with solid carbon dioxide in conjunction with intravenous injections of a gold compound.

DR. EUGENE F. TRAUB: For an obstinate condition like this, if one brings about a little inflammatory reaction in the local lesion, some times a great deal of benefit will result. It is my impression that the satisfactory results which so frequently occur following intradermal injection of a gold compound probably exemplify this point. I have repeatedly applied solid carbon dioxide in small doses, giving rise to a mild local inflammatory reaction without scarring, with the result that the lupus erythematosus lesions disappear promptly. This is particularly the case if a gold preparation is given intravenously at the same time.

DR. FRANK C. COMBES: I suggest trying Hollander's treatment with quinine and iodine.

Xanthoma Diabeticorum with Lesions Resembling Keloids. Presented by DR. FRED WISE.

Mrs. L. C., a Negress aged 34, born in the British West Indies, registered at the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital on May 28, 1940, with cutaneous lesions of four years' duration. Her mother died of diabetic gangrene. The patient's usual diet had consisted of fattening foods, so that she had become obese. She had been known to have diabetes for eight years. Yellowish spots appeared suddenly four years ago on the extensor surfaces of the arms, a week or two later on the feet and legs and

within a month on the rest of the body. These attacks of showers of papules and nodules were usually preceded immediately by sensations of burning and heat and were followed by frontal and occipital headaches. She also complained of polyuria polydipsia, nocturia and pain in the right hypochondrium radiating to the back.

The eruption is symmetric and consists of pinhead-sized to match head-sized round yellowish brown hard shiny papules and nodules, isolated and discrete, grouped and confluent, forming some variously sized irregular and some linear and stellate patches. They are located mostly on the extensor surfaces and sides of the upper and lower extremities, including the palms and soles, but are less abundant on the back and nates. There are also numerous papules on the roof of the mouth and under the finger and toe nails. The scars of vaccination and of biopsy wounds and the scars on the forehead are free of any growths. On the left elbow and on the extensor surfaces of the arms, forearms and knees are linear growths varying from 2 to 4 inches (5 to 10 cm.) in length, some raised to 1/6 inch (0.4 cm.) and so shaped that they form bizarre rhomboid-like designs, with ramifications projecting from the ends and sides, resembling the twigs of a tree. These growths are of keloid-like hardness and infiltrate the entire skin but move freely with it. They have yellowish summits with light brown bases and dark brown halos about 1/4 inch (0.6 cm.) in width. Now after three months of antidiabetic regimen and thyroid medication the halos have vanished and the keloid-like growths are uniform in color and much softer. The patient is also able to extend the hands completely and in general feels much better.

The results of routine laboratory tests, including chemical examination of the blood, were normal except for 10,700 leukocytes per cubic millimeter of blood and 2.5 per cent sugar and a 4 plus reaction for albumin in the urine. The result of an icterus test on June 6 was "too lipemic to read." Chemical examination of the blood on May 13 showed: 380 mg. of chlorides (normal 450 to 500 mg.), 250 mg. of true dextrose (normal 60 to 100 mg.) and 820 mg. of total cholesterol (normal 160 to 230 mg.) per hundred cubic centimeters. The blood was very lipemic. On June 14 chemical examination of the blood showed 1,045 mg. of total cholesterol per hundred cubic centimeters, with 612 mg. of cholesterol esters (normal 100 to 150 mg.), and 58 per cent total esters (normal 40 to 60 per cent). On October 17 the following results of chemical examination of the blood were reported by Dr. Herman Sharlit: 2,032 mg. of total fat (upper limit of normal 700 mg.), 1,640 mg. of fatty acids (upper limit of normal 420 mg.), 14.9 mg. of lipid phosphorus (upper limit of normal 10 mg.) and 380 mg. of total cholesterol (upper limit of normal 230 mg.), with 210 mg. of cholesterol esters (55 per cent of total, which is the usual normal amount).

The histologic diagnosis, based on examination of one of the keloid-like lesions by Drs. Satenstein and Sachs, was xanthoma, with the following description: "There were at one side of the section in the upper part and midportion of the cutis groups of foam cells. They were lying in a matrix of dense connective tissue bundles containing a number of connective tissue cells. There were a fair number of dilated vessels in this area. The epidermis showed increased pigmentation of the basal cell layer."

DISCUSSION

DR. A. BENSON CANNON: To my way of thinking it is inconceivable that these remarkable figures and linear lesions, red, shiny and firm, could be anything other than keloidal. The clinical appearance of the lesions is so characteristic of keloid that I should question the histologic report of only xanthoma. I think that more sections should be made and studied of the tissue already obtained and additional tissue obtained from other lesions and subjected to careful study before the case should be put on the records as being one of xanthoma and not of keloid. I am willing to accept the diagnosis of xanthoma plus keloids but not that of xanthoma alone.

DR. GEORGE M. MACKEE: At least one biopsy specimen was taken of what seemed to be a linear keloidal lesion. The histologic structure was that of xanthoma. Clinically many of the lesions look exactly like the variety of keloid that occurs in the Negro. Clinically the lesions are either keloids or keloidal. I am inclined to think that additional histologic study will show xanthoma with considerable hyperplasia of the connective tissue.

DR. FRED WISE: I agree with Dr. MacKee and Dr. Cannon. A section of tissue from an area which clinically appeared to be keloidal did not show the structural changes of keloid but did show typical xanthoma.

Mycosis Fungoides. Presented by DR. FRED WISE.

E. L., a woman aged 50, presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, was presented before the New York Academy of Medicine, Section of Dermatology and Syphilis, on March 7, 1939 (ARCH. DERMAT. & SYPH. **40**:816 [Nov.] 1939) and again before the New York Dermatological Society on Oct. 24, 1939.

Nine months ago the patient's hair on the scalp began to fall out. Six months ago the lesions on the body began to spread. Once lesions appear, they do not regress but gradually enlarge peripherally without clearing in the center. At present extensive lesions are scattered over the scalp, face, abdomen, thighs and legs. Most of them are dry, scaly, sharply defined and yellowish red.

The results of routine laboratory examinations were normal. Histologic examination on Sept. 12, 1939 showed mycosis fungoides.

The main reason for again presenting the patient is that the lesions are at present refractory to unfiltered roentgen ray treatment, while filtered roentgen rays seem to control certain lesions satisfactorily. One treatment with ¼ skin unit filtered through 1 mm. of aluminum (450 r) to the tip of the nose and three similar treatments to the right cheek given during the past few weeks resulted in the complete disappearance of the lesions, leaving the skin normal and white.

DISCUSSION

DR. HOWARD FOX: I suggest that fever therapy be tried, as this method of treatment has been of help in certain chronic dermatoses.

DR. FRANK C. COMBES: Fever therapy usually makes mycosis fungoides worse in the tumor stage. The condition is not in the tumor stage in this case, of course, but there is some infiltration present.

DR. FRED WISE: I should like to ask Dr. MacKee whether I should try filtered roentgen rays instead of unfiltered to note the effects on this recalcitrant eruption.

DR. GEORGE M. MACKEE: I should expect about the same result with either filtered or unfiltered roentgen rays. However, for stubborn conditions better results may at times be obtained with filtered rays because of the larger dose possible, the erythema dose of unfiltered roentgen rays is 300 r and of filtered rays 450 r (with 1 mm. of aluminum).

Lichen Planus (a New Clinical Type Showing Atrophy). Presented by DR. FRANK C. COMBES.

J. C., a white man aged 35, presented from Bellevue Hospital, has an eruption confined to the anterior surfaces of both legs just above the ankles. It is of ten months' duration and consists of sharply outlined patches of grouped flat papules, English vermilion in color. Many are covered with a branny scale, and all are perifollicular in location. On close examination circular atrophic patches, 1 to 2 mm. in diameter, surrounding a hair follicle may be seen. Throughout most of the area there is a total loss of hair. In the more recent lesions and at the borders hairs may be seen emerging from the center of each papule. There are

no spines or follicular plugs. On resolution the lesions leave no pigmentation. The patch on the right leg is about 10 cm. in diameter; that on the left, less than half that size.

The Wassermann reaction of the blood was negative and the urine normal. Studies for amyloid degeneration gave negative results. Histologic examination showed the typical structure of lichen planus with atrophy.

DISCUSSION

DR. HOWARD FOX: I have never encountered a case of lichen planus like this one and congratulate Dr. Combes on his diagnostic acumen.

DR. FRANK C. COMBES: I admit having made the diagnosis before the biopsy was done, but perhaps that was because I had previously had a case similar to this one, with more extensive patches. On the forearms and legs and just above the ankles there were the original patches where the activity of the lesions had subsided, leaving dozens of these follicular atrophic spots.

Keratosis Palmaris et Plantaris (Limited to Sharply Defined Areas). Presented by DR. PAUL E. BECHET.

A. de D., a man aged 23, presented from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, states that his dermatitis began eight years ago on the volar surfaces of the fingers, as callus-like thickenings which, as time went on, spread to the palms and soles. Inspection shows pea-sized to walnut-sized, lemon yellowish, hard, hyperkeratotic, sharply outlined, greatly elevated areas situated on the bases of the phalanges, the thenar eminences and the creases of the palms. Their surfaces are rough, irregular and dry. The flexor surfaces of the toes, the anterior plantar arches and the heels are similarly affected. There is on the soles an apparent predilection for the sites most subject to pressure. The lesion on the left thenar eminence appeared two years ago, before he worked with a compressor in digging up roads. None of the lesions is painful. There are several verrucae on the scalp, nose and left external auditory meatus.

Examination of the hands and feet for fungi gave negative results. The Wassermann and Kahn reactions were negative. The results of chemical examination of the blood and the differential blood count were normal. Physical examination showed no abnormalities except the cutaneous condition.

DISCUSSION

DR. A. BENSON CANNON: As the keratosis of the palms and soles began late in life, I suggest that tests for arsenic in the blood and urine be made in an endeavor to rule out the possibility of arsenical keratosis.

DR. PAUL E. BECHET: An estimation of arsenic is being made but has not yet been completed.

Pityriasis Lichenoides et Varioliformis Acuta. Presented by DR. FRANK C. COMBES.

F. L. H., a patrolman aged 41, is presented from Bellevue Hospital. He states that the eruption began four months ago on both legs and ankles, gradually spreading and persisting. The chest, abdomen, buttocks and both lower extremities present pinhead-sized to pea-sized papules, round or oval in outline and bright red. Some are paler and covered with scales, while others show a tendency to necrosis and hemorrhagic crust formation. The palms show a number of scattered necrotic papular lesions. Subjective symptoms are absent.

The Wassermann reaction of the blood was negative on three different occasions. Histologic examination showed changes generally observed in pityriasis lichenoides et varioliformis acuta.

DISCUSSION

The members agreed unanimously with the diagnosis as presented.

Lupus Vulgaris (Tumidus); Scrofuloderma; Tuberculous Adenitis of the Neck; Hematogenous Tuberculosis. Presented by DR. FRED WISE.

C. D., a man aged 24, registered at the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital on May 16, 1940, presenting lesions on the face and nose, on the sides of the neck and trunk and on the upper and lower extremities. He was in good health until three years ago, when a cold developed in the head and a hard painless swelling of the glands of the right cervical and inguinal regions. He had chills and high fever for two weeks, followed by two weeks of normal temperature, then by two more weeks of remittent fever without chills and later by night sweats for five months. He was confined to his bed for about six months, during which time he lost 30 pounds (13.5 Kg.) in weight. After tonsillectomy and removal of infected teeth he began to gain weight and the glands of the right side of the neck receded to about half their previous size. A histologic examination of a gland of the right side of the neck taken at the Memorial Hospital two months after his illness showed Hodgkin's disease. He received roentgen ray treatments three times weekly for about two months to the right side of the neck and a few to the left side.

The patient was doing well until one and a half years ago when he had another cold and with it a greater tumescence of the affected glands. Two days after a roentgen ray treatment the glands in the lower half of the right side of the neck began to ulcerate and discharge a seropurulent fluid. As the ulcer healed, another adjacent gland became similarly affected, until gradually the entire right side of the neck became involved. At the same time other lesions appeared in the right clavicular and submaxillary regions. During the past year lesions developed successively on the front of the left ear, the right cheek, the tip of the nose and the upper portions of the chest.

The lesions are multiform in character. On the tip of the nose and on the trunk are pea-sized to larger, well defined, round and conical shaped, soft, reddish yellow, isolated nodular growths projecting above the skin and moving freely with it. There are match head–sized to nickel-sized plaques, round and irregular, discrete and confluent, with flat rough surfaces and raised nodular borders, some covered with adherent scaling. These are seen in the right infraclavicular and right scapular areas and on the middle of the right cheek, where on diascopic pressure the apple jelly nodules are clearly visible. There are also similar but superficial round, irregular patches on the palms and flexor surfaces of the wrist. On the lower half of the right side of the neck are three oval depressed scars covered with thinned skin, and on the upper half are three oval deep ulcers, the floors of which are firmly attached to the underlying structures and are covered with a seropurulent discharge and crusting. There are also cordlike hypertrophic scars irregularly distributed between these ulcers. The skin of the left side of the neck is intact and normal looking but bulges unevenly in the center. On palpation there is an irregular, elongated mass about 3 inches (7.5 cm.) in length and 1½ inches (4 cm.) in width, consisting of matted glands bound down to the deep tissues, over which the skin is freely movable. There are also enlarged glands in the anterior cervical regions.

The results of routine laboratory tests, including roentgenologic examination of the lung fields, were normal. The report of histologic examination of one of the nodules by Drs. Satenstein and Sachs was as follows: "Sarcoid is a possibility but the sections suggest lupus vulgaris. Throughout the midportion and upper part of the cutis there is a dense diffuse infiltrate consisting of conglomerations of epithelioid cells with giant cells surrounded by fairly dense masses of small round cells with plasma cells. Some of the tubercles are not entirely surrounded by small round cells. There are dilated vessels and considerable edema in the upper part of the cutis. The epidermis is thinned, and the rete pegs are poorly developed."

The patient is receiving weekly treatments of generalized ultraviolet irradiation and filtered roentgen rays to both sides of the neck, ½ skin unit each, filtered through 3 mm. of aluminum (550 r), once in two weeks. Some of the nodules

have been destroyed by electrodesiccation. Four nodules in the upper part of the right side of the chest are receiving injections once in two weeks of 0.2 to 0.4 cc. of a 15 per cent sterile suspension of arrowroot starch. After two injections those nodules diminished to less than half of their original size.

DISCUSSION

The members agreed unanimously with the diagnosis as presented.

METROPOLITAN DERMATOLOGICAL SOCIETY

THOMAS N. GRAHAM, M.D., *President*

ROBERT R. M. MCLAUGHLIN, M.D., *Secretary*

Nov. 18, 1940

Chronic Urticaria and Transient Erythema of the Right Thumb and the Right Index and Middle Fingers. Presented by DR. HENRY D. NILES.

N. N., a white woman aged 30, has had chronic urticaria for many years on the first, second and third fingers of the right hand, with wheals also on the first finger. She has been constipated for fifteen years and has taken an enema daily. Her constipation became more pronounced nine years ago after removal of her appendix.

She has had many treatments of various kinds for urticaria but has obtained most relief from injections of estrone (theelin) and an autogenous vaccine made from hemolytic Bacillus coli obtained from her stool.

The patient has been under the care of a psychiatrist for many years. She is presented because of the unusual erythema on her right hand.

DISCUSSION

DR. ANTHONY C. CIPOLLARO: I do not know what the condition is; I think it is factitial. Perhaps she rubs her fingers from nervousness and this causes the eruption.

DR. LAIRD S. VAN DYCK: I am inclined to agree with Dr. Cipollaro on the possibility of some sort of stigmatization or fixation that might account for the localization on those three fingers. Psychoanalysis might give the key to it.

DR. FRANKLIN H. GRAUER (by invitation): In view of the history, the urticaria may be due to a neurogenic or psychogenic disturbance. The simultaneous redness of the fingers may, as Dr. Cipollaro suggested, be a result of the manipulation, a type of compulsion neurosis. Tension states might thus precipitate both manifestations at the same time.

DR. HENRY D. NILES: The erythema on the fingers seems unusual to me. It appears only on one side of the first, second and third fingers and never on the other two fingers of the right hand and never on the left hand. It seems to fluctuate with the urticaria but lasts longer. The benefit obtained from any treatment seems to be through suggestion. This treatment, at one time, caused her urticaria to disappear and brought on menstruation. I believe that the urticaria is of psychogenic origin.

Tinea Capitis Complicated by Cicatrizing Alopecia. Presented by DR. M. J. COSTELLO.

R. M., a boy aged 3 years and 4 months, from St. Clare's Hospital, has had an eruption on the scalp for the past four months. He had played with a pet

shop cat (believed to be the source of numerous cases of tinea capitis in the neighborhood children). The eruption, which early in its course was accompanied by an extreme degree of inflammatory reaction, spread to include the entire scalp. It consisted of numerous vesicopustules, crusts and a boggy intense edema, which extended to include the back of the neck. He also exhibited a generalized symmetric discrete lichenoid trichophytid, which made its appearance several days before, at the height of the eruption on the scalp. Examination of hair from the scalp showed Microsporon lanosum. The trichophytid disappeared in about ten days.

For ten weeks he was treated at other clinics with salves and lotions. His most recent treatment has consisted of 3 per cent salicylic acid and 6 per cent ammoniated mercury. He now presents a diffuse baldness of the entire vertex and occipital region of the scalp. The scarring of the scalp appears to be deep enough to cause permanent alopecia.

He is presented for opinion regarding prognosis.

DISCUSSION

DR. LAIRD S. VAN DYCK: The prognosis for return of hair in the scarred areas is unfavorable. Roentgen ray treatment could not produce this type of alopecia; the tinea infection itself must be to blame.

DR. ROYAL M. MONTGOMERY: In classic cases of tinea of the scalp due to M. lanosum there is an inflammatory response, and at times there is permanent scarring alopecia. I think the condition in this case is the result of infection with M. lanosum, because there are small patches of alopecia surrounding the large scarred area of alopecia, which is characteristic of this infection. If it were due to roentgen rays, there would be one large area of alopecia without the surrounding smaller areas. If roentgen rays had been given in treatment, it would be blamed for the results. This is one good reason why roentgen rays should not be given when this fungus is found to be the causative agent. Topical fungicidal ointments will usually cure M. lanosum infections. I believe the alopecia will be permanent.

DR. ANTHONY C. CIPOLLARO: In some cases tinea capitis results in permanent alopecia. I think the condition in this case is an example of tl.is. A patient with tinea capitis can have alopecia independent of any treatment administered, including roentgen therapy.

DR. ROBERT R. M. MCLAUGHLIN: I agree with the remarks of Drs. Montgomery and Cipollaro in regard to the formation of permanent scars following fungous infections.

DR. FRANKLIN H. GRAUER (by invitation): I do not think that the alopecia is due to roentgen rays. I think it is more likely the result of the deep seated pyogenic infection or possibly of alopecia cicatrisata.

DR. MAURICE J. COSTELLO: This patient was presented for two reasons, first because of a lichenoid trichophytid which developed during the acute stages of the infection of the scalp. It is similar to the type of eruption which follows temporary epilation of the scalp with roentgen rays and to that occurring in deep spore kerion. He was also presented because of the extensive irregular alopecia confined to the previously infected sites. This alopecia may be permanent, because of the nature of the scarring, which is deep. Two months has elapsed without clinical activity, yet the areas remain bald. This case is of great importance because it serves to demonstrate again that a severely inflammatory fungous infection of the scalp may be followed by alopecia, which sometimes is permanent.

Lichen Nitidus. Presented by DR. ROYAL M. MONTGOMERY

F. M., a boy aged 11½ years, has had a grouped lichenified eruption for the past year. On the arms and legs there are groups of minute discrete shiny-topped

papules, closely aggregated in patches up to 2.5 cm. in diameter. These patches are located on the forearms, the wrists and the sides of the knees. The trunk and face are free. The lesions are not pruritic.

The patient has recently had the grip with a low grade fever.

DISCUSSION

DR. LAIRD S. VAN DYCK: I think the color is characteristic of lichen nitidus. I agree with the diagnosis as presented.

DR. HENRY D. NILES: I agree with the diagnosis. Lesions of lichen nitidus can be umbilicated and skin colored. The small size, the absence of pruritus and the duration of one year are in favor of the diagnosis. Ten years ago I reported a case of lichen nitidus (ARCH. DERMAT. & SYPH. **22**:687 [Oct.] 1930) in which the eruption disappeared after injections of gold sodium thiosulfate. Since then I have had 2 or 3 other patients who responded to this treatment. Because of the patient's low grade fever he should have a roentgenogram made of his chest, and if this is normal I suggest giving him 5 to 10 mg. of gold sodium thiosulfate intravenously once a week, as I know of no other treatment which is effective in this condition.

DR. ANTHONY C. CIPOLLARO: I agree with the diagnosis. Lesions of lichen nitidus may appear in linear formation.

DR. ROYAL M. MONTGOMERY: I was struck by the linear formation of the papules. I thought at first glance that the patient had verruca plana. After further inspection I changed my diagnosis to lichen nitidus.

Hidradenitis Suppurativa. Presented by DR. MAURICE J. COSTELLO.

M. P., a woman aged 27, has had frequently recurring painful circumscribed infections in the axillas for the past seven years and a guttate generalized psoriasis for four years. The former eruption exhibits, in addition to the furuncle-like lesions, many scars and comedos. Treatment has consisted of incision, drainage and local applications.

DISCUSSION

DR. FRANKLIN H. GRAUER (by invitation): I am particularly interested in the presence of the comedos. I agree with Dr. Costello that it is a noteworthy observation. Recently I have had as patients a father and daughter with this condition. The daughter's eruption occurred in the cubital and popliteal fossae, as well as in the axillas and in the anogenital region. The father's eruption was confined to the perianal region. In both patients comedos were present.

DR. MAURICE J. COSTELLO: This dermatosis occurs also in the inguinal regions. Comedos are seen accompanying this eruption so frequently that they serve as a point in differentiating this disease from ordinary furunculosis of this region, which it closely simulates. In the latter condition comedos are absent.

Pseudoxanthoma Elasticum and Elastorrhexis with Associated Visual Disturbances. Presented by DR. MAURICE J. COSTELLO.

A. D., a Hungarian man aged 47 years, presented from Bellevue Hospital, has an eruption of five years' duration. It involves the collar area of the neck, the supraclavicular areas, both axillas and the right cubital space. These areas consist of grayish linear and punctate reticulated faintly yellow lesions associated with loss of elasticity of the skin, as is evidenced by lack of recoil when the skin is stretched.

The patient's chief complaint is rapid progressive loss of vision. He also has mild pruritus. Angioid streaks can be detected in both retinas, especially in the left. Histologic examination of the skin taken from the affected area of the neck confirmed the aforementioned diagnosis. The Wassermann reaction of the blood was negative.

DISCUSSION

DR. LAIRD S. VAN DYCK: The condition is rare, and the distribution is the most extensive of any I have ever seen.

DR. MAURICE J. COSTELLO: This patient is presented principally because of the rapid progressive loss of vision, accompanied by angioid streaks in the retinas. He also has lost weight and strength.

Erythema Annulare Centrifugum. Presented by DR. ROBERT R. M. MCLAUGHLIN.

A. J., a woman aged 74, has had this eruption involving the lower extremities about five weeks. Several years ago she had a similar eruption which lasted for several months. An attack of dermatitis venenata was succeeded by urticaria just before the present eruption appeared.

There are rather large annular rings with slightly pigmented centers. Some lesions show a central large raised macule, and some of the rings are incomplete. There are about thirty of these lesions on the hips, thighs and lower parts of the legs.

There is no history of ingestion of drugs other than magnesia magma. The Wassermann reaction of the blood was negative.

An abscessed tooth was found and extracted. Multiple cutaneous tests gave negative results except for a ring lesion that appeared at the site of an injection of staphylococcus toxoid. Urticarial reactions were obtained from injections of trichophytin but not with oidiomycin, with no delayed reaction.

Erythema Annulare Centrifugum (Darier). Presented by DR. THOMAS N. GRAHAM.

D. G., a man aged 24, from the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, presents a generalized eruption of six months' duration. He had previous attacks of the same condition in 1932 and in 1936, at which times he was also treated in the clinic.

The lesions start with discrete erythematous papules, which enlarge and form circles of papules which spread peripherally. The diameter of the circles doubles in about three weeks. At present there are lesions in all stages, from papules which have just appeared to circles 20 cm. in diameter. There are also a number of irregular and gyrate configurations resulting from segmentation and overlapping of the older lesions. In some instances new initial papules have appeared in the center of old circles and configurations, forming concentric circles. The lesions are indurated; many present no scaling, and a few show scaling of the inner border.

A biopsy was performed on Oct. 14, 1940. The sections showed a relatively normal epidermis with a thick nonparakeratotic scale. Scattered throughout the corium were islands of perivascular exudate. The cellular exudate consisted of a large number of eosinophils as well as lymphocytes. The blood vessels were engorged. There was edema of the collagen fibers, associated with an irregular acid stain. The Wassermann reaction of the blood was negative. Urinalysis gave negative results. The blood sugar amounted to 89.4 mg., the blood urea to 14.8 mg. and the blood uric acid to 2.34 mg. per hundred cubic centimeters. Hemolytic streptococcus and Staphylococcus aureus were cultured from the sputum and from material from the throat. The tonsils were subsequently removed, on July 29.

DISCUSSION OF THE TWO CASES OF ERYTHEMA ANNULARE CENTRIFUGUM

DR. THOMAS N. GRAHAM: I should like to ask the members if they believe that there is any difference between erythema figuratum perstans of Wende and erythema annulare centrifugum of Darier. In the reports of these two observers

the only difference that I could find was that Wende described a "crater-like" scaling of the inner margin of the rings, while Darier reported no scaling. My patient presents lesions of both types.

Dr. Laird S. Van Dyck: The condition of the second patient would make a beautiful textbook picture of an almost generalized erythema annulare centrifugum.

A patient (a man aged 24) with erythema annulare centrifugum, showing lesions in all stages of development, including primary papules and concentric circles.

Dr. Henry D. Niles: These cases are both typical. The lesions have raised edematous borders. There may be discolored centers, as in the first case. Empirically I gave 1 patient with this condition an intramuscular injection of bismuth subsalicylate, and the lesions completely disappeared and have not recurred. Since then I have used this treatment for 2 or 3 other patients with equally good results. One of these had had an eruption for many years which had resisted many forms

of therapy. The lesions were of the target type with three or four concentric circles. They completely disappeared and have not recurred in two to three years. As many as twelve weekly injections may be required.

DR. ROYAL M. MONTGOMERY: I agree with the diagnosis in both cases. It is interesting to note that in the large patch in Dr. Graham's case the center is broken up, giving a mottled appearance. The unelevated skin within the patches has a grayish tint and is not scaly; it closely resembles the skin in some of the larger patches of tinea of the glabrous skin caused by Trichophyton purpureum, except that in tinea scaling is present.

DR. FRANKLIN H. GRAUER (by invitation): I agree with the diagnosis as presented. Conditions like these always raise the question as to whether they might not possibly be examples of the other members of the group of gyrate erythemas, namely, erythema chronicum migrans (Lipschütz), erythema gyratum perstans (Strempel) or erythema simplex gyratum (Jadassohn). A classification into separate groups is difficult because of the close clinical resemblance. At times I wonder if the conditions might not all be variants of one and the same disease described under various names by different authors.

DR. THOMAS N. GRAHAM: I agree with Dr. Grauer that differentiating between Darier's erythema annulare centrifugum and Wende's erythema figuratum perstans requires "splitting hairs." Erythema chronicum migrans as described by Lipschutz, however, presents a different picture in that it usually consists of a single lesion, starting with an erythematous edematous papule or a small urticarial ring. The initial lesion extends peripherally much more slowly than the lesion described by Darier and Wende. It has been reported by a number of observers to follow an insect bite.

CHICAGO DERMATOLOGICAL SOCIETY

HERBERT RATTNER, M.D., *President*

MICHAEL H. EBERT, M.D., *Secretary*

Oct. 16, 1940

Necrobiosis Lipoidica Diabeticorum. Presented by DR. HERBERT RATTNER and DR. MAURICE DORNE.

E. G., a woman aged 23, presents a palm-sized lesion on the lower anterior surface of the right leg, polycyclic in outline and sharply defined. It feels firm, much like a patch of scleroderma. The surface is smooth and shiny, with several yellowish pea-sized areas in the central portion and fine telangiectases traversing the surface. The border is violaceous. There are two similar but smaller lesions on the tibial surface of the left leg. The first lesion was noticed twelve years ago. Not until four months ago did the patient know that she had diabetes mellitus. At that time chemical analysis of the blood showed 375 mg. of sugar per hundred cubic centimeters. After one month of dietary treatment the volume was reduced to 250 mg. The cholesterol amounted to 191 mg. per hundred cubic centimeters and the cholesterol esters to 68 mg.

A section showed the histologic changes of necrobiosis lipoidica diabeticorum.

DISCUSSION

DR. MAURICE OPPENHEIM (by invitation): The condition in this case is a classic example of dermatitis atrophicans lipoides diabeticorum, a name which I gave to this disease in my first description of it in 1928, five years before Urbach named it necrobiosis lipoidica. It is a sharply defined condition and must not be confounded with other necrotic and atrophic processes. Michelson and Laymon

directed attention to other processes on the legs, where they found fatty imbibition, but such conditions are clinically different from the one presented. Urbach (ARCH. DERMAT. & SYPH. **42**:68 [July] 1940) changed his idea of the mechanism of fatty imbibition in this disease to fatty infiltration, because he found very small drops of fat following the connective tissue fibers, and with this statement he came closer to agreement with me that in cases of necrobiosis lipoidica diabeticorum a fatty degeneration—a lipoid degeneration of the connective tissue in the sense of Kreibich (Kreibich, C.: Ueber Bindegewebsdegeneration, *Arch. f. Dermat. u. Syph.* **130**:535, 1921)—takes place.

It is my opinion that this disease does not exist without diabetes. I have seen 4 patients with this disease in Chicago since my arrival here one and a half years ago. One in my clinic had diabetes. The other 3 I saw in the Cook County Hospital; one of these had manifest diabetes; the other 2, very obese women, had no diabetes, but their parents had had diabetes. I believe that the right name for this disease should be dermatitis atrophicans et necrobicans diabeticorum. The condition seems to be much more prevalent in the United States than in Europe.

Acrodermatitis Chronica Atrophicans with Tumor Formation. Presented by DR. MICHAEL H. EBERT and DR. A. H. SLEPYAN (by invitation).

J. A., a woman aged 69, states that about one year ago a bluish discoloration appeared on the left elbow. Within several months the eruption spread to the dorsa of the hands. Soon thereafter the patient noted skin-colored nodules on the dorsum of the left hand, varying in size from that of a large pinhead to that of a pea. With the appearance of a new lesion there is occasional itching. The older lesions vary in size from time to time. They do not disappear spontaneously.

The patient had pneumonia two years ago; prior to that her health was excellent. She has no children. No other members of her family are similarly afflicted.

A pea-sized tumor was excised and stained with hematoxylin and eosin. The tumor was made up of numerous nuclei in a fine reticulum. The tumor tissue was fairly well defined, separated from the epidermis by a thin zone of normal collagen. Below it were sweat glands. A few capillaries ran through it. The nuclei were oval, spindle shaped or kidney shaped, varied in size and had no definite arrangement. The stroma was a fine reticulum which had a yellowish tinge with van Gieson's stain. In sections stained with Weigert's stain a few fibers of elastic tissue remained in the tumor.

A 10 per cent suspension of ferrous carbonate was injected into one tumor, and the growth was excised in forty-eight hours. Sections were stained for iron. Many of the iron granules had been ingested into the cytoplasm of cells. Some appeared as long slender histiocytes and others as plump phagocytic monocytes.

DISCUSSION

DR. CLARK W. FINNERUD: From a clinical examination of the lesion on the right hand I thought that the sections would give a picture of leiomyoma but from the histologic picture I concluded that the condition must be an extremely unusual type of neurofibromatosis, probably related in some way to a localized manifestation of Recklinghausen's disease. Whether there is any relation to the acrodermatitis I do not know.

DR. S. W. BECKER: I think that neither a clinical nor a histologic diagnosis of ordinary neurofibromatosis can be made. The clinical picture is not that seen in Recklinghausen's disease. The microscopic picture is perhaps the same as that described for neurilemmoma. The tumor is neurogenic and has some of the histologic features of a neurogenic sarcoma. I believe it is a more harmful tumor than those of ordinary neurofibromatosis.

DR. MICHAEL H. EBERT: I confess that I have never seen anything like this condition. I believe that there are sufficient changes on the right elbow, on the back of the right hand and to a less extent on the left elbow to warrant calling the condition acrodermatitis chronica atrophicans. As is well known, various types of tumors have been reported with this disease. Dr. Oppenheim in his monograph has described them as fibrous tumors, angiomatous tumors and occasionally sar-

coma. In a brief glance at the literature I have not seen descriptions of tumors of this type. I believe that the patient has a single disease and that the tumors are part of it. I have made a good many stains but could not make an exact diagnosis of the type of tumor. I do not believe it is a tumor of Recklinghausen's disease. It does not look like the ordinary fibroma. I was in hopes that Dr. Caro or Dr. Senear would be able to tell whether it was a histiocytoma. There is some phagocytosis of the iron cells, and some of the phagocytic iron cells appeared like histiocytes. A few phagocytosing monocytes would probably be present in that type of tumor.

DR. FRANCIS E. SENEAR: My first reaction was like that of Dr. Finnerud; I thought that in spite of the location the lesion was suggestive of leiomyoma. Then I was struck by the resemblance to the lesions in a case reported by Dr. O'Leary as one of ganglioneuroma and also to a tumor seen on a woman at Dr. Wile's clinic several years ago who had a lesion on the breast which clinically appeared to be a keloid but on microscopic examination proved to be a neuroma. I feel that if the tumors in the case presented had been aggregated instead of individually placed they would be consistent with a nerve tumor.

DR. MICHAEL H. EBERT: Silver stains were made to demonstrate nerve fibers, but none were present. Perhaps that was due to faulty technic in the stain.

Lupus Erythematosus Disseminatus Subacutus. Presented by DR. MICHAEL H. EBERT.

C. S., a white woman aged 43, presents an eruption on the face, neck, scalp, V of the chest, upper part of the back and extensor surfaces of the arms. She first noticed an itching eruption in the scalp eighteen months ago. This cleared, and later lesions similar to the present ones appeared on the V of the chest. These itched intensely and spread gradually. She was admitted to the Cook County Hospital in June 1940. At that time she had a leukocyte count of 5,800 and a normal differential count. The hemoglobin amounted to 88 per cent and the erythrocytes numbered 4,460,000. The blood sugar content was normal. Her gallbladder was well visualized. A roentgenogram of the chest was normal. The Wassermann reaction of the blood was negative. The cutaneous lesions were similar to the present ones but more scaly. Many have since undergone involution, leaving bluish stains, one or two being slightly atrophic.

At present there are numerous discrete match head–sized to pea-sized flat-topped slightly raised bluish red papules. On diascopic pressure a brownish discoloration remains.

There was a moderate parakeratotic scale formation with follicular plugging. The epidermis was acanthotic, and there was decided spongiosis; in places it was reduced to two or three rows of cells. The basal layer was much disturbed by the edema. The papillary and subpapillary areas of the corium were edematous. The foci of round cell infiltrate were perifollicular and made up chiefly of lymphocytes. There was some homogenization of the collagen in areas of greatest edema. With a Weigert stain the elastica was seen to be absent in the areas of round cell infiltrate and sparse in the papillary and subpapillary layers.

DISCUSSION

DR. RICHARD S. WEISS, St. Louis: I agree with the diagnosis.

DR. H. R. FOERSTER, Milwaukee: I agree with the diagnosis. I think it is worth mentioning that de Takáts, who has made an extensive study of hypertension, in a talk before the Milwaukee Surgical Society on Oct. 7, 1940, included lupus erythematosus among the etiologic factors of that disease. In a discussion of this relation, O. H. Foerster suggested that the toxic effects of gold therapy on the kidneys may be responsible for the development of hypertension in such cases.

DR. PAUL A. O'LEARY, Rochester, Minn.: I believe this patient has lupus erythematosus, but I do not agree with the classification. The condition appears to be of the chronic rather than the subacute type. Although she has had no

systemic symptoms, such as arthritis, malaise or asthenia, it is possible that manifestations of subacute or even acute dissemination may appear at any time.

Dr. Herbert Rattner: There has been some tendency in the literature of late to link lupus erythematosus and dermatomyositis. What is your thought on that?

Dr. Paul A. O'Leary, Rochester, Minn.: I have observed several cases of dermatomyositis with focal distribution of lupus erythematosus but with neither morphologic nor histologic evidence of the latter. I am not able to support the idea that dermatomyositis and lupus erythematosus are closely related; in fact, the only thing they have in common in my experience is the aforementioned eruption, and even this cutaneous manifestation is rare among patients with dermatomyositis.

Dr. H. E. Michelson, Minneapolis: I should like to ask Dr. Ebert what other diseases were considered when he was trying to arrive at a diagnosis. The observations are plainly not those of lupus erythematosus, especially, it seems to me, the histologic picture. The distribution of the lesions is also odd because the back is involved and the lesions are distinctly papular.

Dr. M. J. Reuter, Milwaukee: I agree with Dr. Michelson. Certain features suggested a photosensitization dermatitis, such as the distribution of the eruption on the exposed areas and the presence of papular lesions, which are not uncommon in a person sensitive to light.

Dr. Michael H. Ebert: Dr. Michelson asked if I had considered any other diseases clinically. I certainly did. On seeing this condition I think one is struck by its peculiar distribution on the parts exposed to light, with the exception of the hands, which are not involved, and also by the fact that the lesions are exaggerated by exposure to light. First the eruption appeared on the scalp. Neurotic excoriations were thought of and quickly ruled out. Erythema perstans was thought of. The next diagnosis considered was disseminated sarcoid. I believe that when I first saw the patient the color of the eruption was a little darker than at present. The brownish discoloration on diascopic pressure and the distribution of the lesions made the diagnosis of sarcoid possible. The histologic picture changed my idea about that completely. I agree with Dr. Michelson that this condition is not a perfect example of lupus erythematosus. But if it is not that, I do not know what else it would be histologically to fit in with the clinical appearance. There is edema of the epidermis, as described. There is severe disturbance of the basal layer, which is almost completely broken up. There is edema of the papillary and subpapillary layers with foci of round cell infiltration. This infiltrate is seen in lupus erythematosus. The only feature the histologic picture lacked was the type of degeneration in the collagenous layer. I thought there was some homogenization of the collagenous tissue. I think I will stick to the diagnosis of lupus erythematosus.

Dr. Theodore Cornbleet: It is worthy of note that this woman has difficulty in swallowing, though not to as great a degree as I have seen in some patients with disseminated lupus erythematosus. Her dysphagia has been present from the time the skin became involved.

A Case for Diagnosis (Parapsoriasis?). Presented by Dr. Michael H. Ebert.

I. S., a white woman aged 32, noticed an itching eruption on her legs one month ago. This has gradually spread over the body. About a week ago her lips became cracked and sore. A day later the inside of her mouth became sore. She has had a constant frontal headache for two weeks and a poor appetite for two months. The family history and personal history reveal nothing of significance. At present the rash involves the covered portions of the body and is most severe on the inner aspects of the thighs. It is made up of discrete pinhead-sized to slightly larger flat-topped papules covered with a fine whitish scale. Some of the papules on the flexor surfaces of the forearms have no scale and are violaceous

and polygonal. The lips are red, edematous, crusted and in places fissured. The tongue is bright red. There is an adherent membrane beneath the tongue and in the buccal pouches. The tonsils are congested. There are some telangiectasia and redness at the bases of the finger nails and on the hands.

DISCUSSION

DR. FRANCIS E. SENEAR: There was a good deal about the eruption to make me think of pityriasis lichenoides et varioliformis acuta, which is relatively subacute rather than acute. Some of the lesions seemed to be of the guttate type of parapsoriasis, as they showed little apparent scaling and on scratching showed immediately a thick white powdery scale. I cannot reconcile the changes in the mucous membrane with the cutaneous eruption, but these were present for only two or three days and may be independent of the cutaneous picture.

DR. S. ROTHMAN (by invitation): The clinical aspect of the eruption is that of pityriasis lichenoides chronica. Particularly characteristic is the fact that the hardly visible scaling becomes pronounced by rubbing. Itching is felt only during the eruption of individual lesions, as it may occur in parapsoriasis. The fully developed lesions do not itch. The three day old stomatitis seems to be purely coincidental, as the cutaneous eruption started one month ago.

DR. M. R. CARO: I thought the condition was lupus erythematosus clinically. I should like to study the lesions histologically.

DR. UDO J. WILE, Ann Arbor, Mich.: I agree with the observation of Dr. Senear as far as the skin is concerned, but I cannot reconcile the lesions in the mouth with any disease but lupus erythematosus.

DR. H. R. FOERSTER, Milwaukee: The oral lesions may be a manifestation of avitaminosis and are probably not related to the other eruption. The patient has complained of a poor appetite since the onset of the lesions, and she is said to have been on an inadequate diet for some time prior to the development of this condition.

DR. HERBERT RATTNER: Are you definitely committed to the concept that Habermann's syndrome is acute parapsoriasis?

DR. FRANCIS E. SENEAR: I should say that, on the basis of several cases observed at school and in the office with Dr. Oliver, the condition in this case is a guttate type of parapsoriasis rather than an acute form, but some of the lesions suggest that the latter type of lesion may have been present. It might be that we have had an unusual opportunity of seeing a condition of the Habermann type changing to the Juliusberg variety.

DR. MICHAEL H. EBERT: I am not certain that the lesions in the mouth and on the lips have anything to do with the eruption which the patient has at present. I am inclined to agree with Dr. Foerster that these may be an acute manifestation of a vitamin deficiency. She had some gastric symptoms before the eruption appeared. The telangiectasia and erythema at the base of the nails have been seen in cases of lupus erythematosus, particularly of the acute type, and combined with the changes in the buccal mucosa and vermilion borders of the lips are interesting. It would be difficult to connect these features with the peculiar scaling eruption on the body of one month's duration. I could not make any diagnosis.

Sarcoidoses. Presented by DR. D. V. OMENS and DR. W. W. TOBIN (by invitation).

E. T., a white woman aged 26, has had a nonpruritic eruption on the face and arms which started in January 1940 shortly after a series of "colds." There has been no known exposure to tuberculosis. Her past history is irrelevant. She has had a low grade fever since she entered the hospital.

Examination reveals discrete flat-topped brownish papules, ranging in size from that of a pinhead to that of a split pea, on the face and the extensor surfaces of the arms, with a few lesions scattered over the extensor surfaces of the legs.

Laboratory study showed nonprotein nitrogen 35 mg. per hundred cubic centimeters and creatinine 2 mg. The urine was normal. Examination of the blood showed 70 per cent hemoglobin, 3,860,000 erythrocytes and 8,100 leukocytes, with a differential count of 69 per cent polymorphonuclear neutrophils, 13 per cent eosinophils, 1 per cent basophils, 16 per cent lymphocytes and 2 per cent monocytes. The platelets were normal. A roentgenogram of the chest showed fine mottled infiltrations throughout both pulmonary fields, suggesting a hematogenous miliary tuberculosis. No osseous changes were noted in the hands. The reaction to a Mantoux test with a 1 : 100,000 dilution was negative. The histologic report by Dr. Caro substantiated the diagnosis of sarcoid.

A Case for Diagnosis (Annular Sarcoid?). Presented by DR. S. W. BECKER and DR. M. E. OBERMAYER.

A. C., a man aged 46, noted an erythematous papule just within and below the left inner canthus four years before observation. The lesion has spread peripherally and healed in the center. He had been observed at the Veterans Administration Facility, Hines, Ill., where both basal cell carcinoma and lupus erythematosus had been considered. He had received roentgen therapy. In the aforementioned region was an erythematous annular lesion 2 cm. in diameter. The border exhibited a brownish hue, evidently the result of superficial crusting. The center was atrophic. A clinical diagnosis of lupus erythematodes was made.

Microscopic section showed slight hyperkeratosis with atrophy of the epidermis. Throughout the papillary and subpapillary layers of the cutis were islands of epithelioid cells contiguous with the epithelium superficially and tending to be confluent in the superficial regions. Deeper down they were isolated by connective tissue. On the basis of the section a diagnosis of annular sarcoid was made.

Fluoroscopic examination revealed some haziness in the lungs. A roentgenogram showed prominent hilar shadows and evidence of a fibrosing process extending into the peripheral pulmonary fields from the hili, more evident on the right side. There were no definite cavities. There was a question of associated softer infiltrative lesions. The condition was considered almost certainly to be tuberculous.

A roentgenogram of the hands showed no osseous changes. The Kolmer and Kahn reactions of the blood were negative, and the urine was normal. Examination of the blood showed 6,300 leukocytes, 80 per cent hemoglobin and 4,700,000 erythrocytes, with a differential count of 69 per cent polymorphonuclear leukocytes, 13 per cent small lymphocytes, 14 per cent mononuclear leukocytes and 4 per cent eosinophils. The polymorphonuclear leukocytes appeared slightly toxic. The sedimentation rate at the end of one-half hour was 3 mm. and at the end of one hour 12 mm.

DISCUSSION

DR. H. E. MICHELSON, Minneapolis: I enthusiastically accept the diagnosis of sarcoid in these 2 patients. I have come to the conclusion that regardless of morphologic changes the only definite criterion for the diagnosis of sarcoid is the microscopic picture. I think that the cause of sarcoid is still an open question, and one must not become too positive in alining the condition with tuberculosis.

DR. CLARK W. FINNERUD: The annular character of the lesion on the nose in the man presented by Drs. Becker and Obermayer was interesting. I have encountered very few cases of sarcoid in which there were annular lesions. At the time Jadassohn was here a case of this kind was presented by Dr. Ormsby. As more and more work is being done on the etiology of sarcoid, it is becoming rather generally conceded that toxins of different organisms are capable of producing this clinical and histologic picture. Only in a fraction of the cases of this disease is it produced by the tubercle bacillus. The literature was well covered in a paper by Jordon and Osborne (Besnier-Boeck's Disease, ARCH. DERMAT. & SYPH. **35**:663 [April] 1937).

DR. JOHN F. MADDEN (by invitation), St. Paul: The patient I presented in St. Paul had many more lesions but resembled the one presented by Drs. Becker and Obermayer in every detail.

DR. MAURICE OPPENHEIM (by invitation): The more cases of sarcoid one observes the less easy it is to believe that there is only one etiologic factor, namely, the tubercle bacillus. According to Kyrle's work (Kyrle, J.: Vorlesungen ueber Histobiologie der Menschlichen Haut und ihrer Erkrankungen, Berlin, Julius Springer, 1925, vol. 1) sarcoid results from attenuated or dead tubercle bacilli; the more virulent the tubercle bacillus the more acute the inflammatory reaction (infiltration with round cells), and the less virulent the tubercle bacillus the more distinct the formation of epitheloid and giant cells, aggregations separated by connective tissue septums. In 1912 I reported that after subcutaneous injections of a silver preparation, mercury and morphine sarcoid-like growths appeared in the skin. They were not foreign body growths but typical reactions on the part of the organism against foreign bodies. Volk observed that after the injection of china ink in the skin a sarcoid-like reaction took place.

DR. THEODORE CORNBLEET: The woman presented by Drs. Omens and Tobins has eosinophilia and multiple scratch marks indicative of severe itching. I wonder if these factors point to an allergic condition.

DR. S. W. BECKER: Two interesting features in our patient were, first, the clinical appearance, which suggested lupus erythematosus, and second, the situation of the superficial epithelioid cells, which were contiguous with the epithelium. Perhaps on that basis previous diagnosis had been made of basal cell epithelioma.

Extensive Tertiary Syphilis. Presented by DR. HERBERT RATTNER and DR. THEODORE CORNBLEET.

F. R., an unmarried policeman aged 44, had an arthrodesis of the left shoulder for a tuberculous infection in 1934. He had no difficulty for three years, after which he was given short wave physical therapy for discomfort. After about five treatments a rash would usually develop on the shoulder lasting two or three days. Shortly thereafter (about one year ago) the skin in the left axilla ulcerated. He received a roentgen ray treatment weekly for about seventeen weeks and ultraviolet irradiation three times a week for about forty treatments, but the ulcerative process continued to extend. He states that he had three blood tests in August 1940, the results of which were negative. The roentgen therapy and the physical therapy were discontinued recently because of a severe reaction on the skin. No history of a chancre or of a rash was elicited.

On examination there is limited motion of the left shoulder. Beginning at the axillary fold and extending backward over the lower part of the scapula and around to the costal arch in the left axillary line is a polycyclic confluent ulcerated lesion with precipitous edges and a muscle red base covered with a moderate amount of purulent and necrotic material. The patient has been treated with potassium iodide for the past six days, in which time the edges of the ulcer have grown together in several places. The skin enclosed by the ulcerations is hypopigmented and shows noncontractile scarring.

The urine was normal. Material from an ulcer on culture showed hemolyzing streptococci (4 plus reaction), Bacillus proteus and hemolytic Staphylococcus albus.

A roentgenogram of the left shoulder showed evidence of an infectious destructive process involving the bones of the left shoulder with destruction of both the humeral head and the glenoid fossa. Complete ankylosis was apparently present. There appeared to be some calcification in the soft tissues above the superior margin of the scapula.

A roentgenogram of the chest showed the pulmonary fields to be fairly clear.

DISCUSSION

DR. UDO J. WILE, Ann Arbor, Mich.: It is unusual to have such a large lesion as this with negative reactions to serologic tests. I wonder whether the test was a very sensitive one.

DR. M. E. OBERMAYER: I should like to point out a clinical differential diagnostic feature which was well illustrated in this case. In contrast to other chronic infectious granulomas, recurrence within the scar tissue is not observed. Syphilis respects its own scars.

A Case for Diagnosis. Presented by DR. MICHAEL H. EBERT.

L. B., a white youth aged 17, states that he was well until about five years ago, when he had osteomyelitis of the left tibia and staphylococcic septicemia with pulmonary involvement. The infection cleared up well enough for him to leave the hospital in six weeks, although he remained nonambulatory for several months thereafter. About a year later nontender "bumps" developed on the right tibia, the left clavicle, the left ring finger and the right forearm; these were incised, and the underlying bone was scraped. At times pieces of bone were discharged from the sinuses. A vaccine made from the discharge helped to heal the lesions. After a variable period the same areas would break down at different times, discharging until a piece of bone came out, and then would heal again. At no time were the lesions painful. During the summer of 1940 similar lesions developed on both arms and on the right thigh. The ones on the arms were painful and never discharged any bony particles. The one on the right thigh opened, and pieces of bone appeared. About ten weeks ago a painless swelling was noticed in the scalp in the right occipital area; it has remained unbroken.

The patient had whooping cough when he was an infant, mumps at 5 years and mealses at 9 years. There is no history of tuberculosis in the family and no contacts. The patient has had a slightly elevated temperature during his stay in the hospital.

Examination reveals a pale but well developed and well nourished boy who appears chronically but not acutely ill. Over the right occipital area is a marble-sized fluctuant raised area with an apparent defect in the underlying bone. Over the left outer clavicle there is a thin healed telangiectatic atrophic scar with a depressed healed sinus at the outer border. A healed red scar which has become tender in the past week is present on the side of the left ring finger. On the upper third of both arms is a granulomatous sinus. A similar lesion is present on the right thigh with a yellowish discharge. There are healed white atrophic scars on both legs with retraction at old sinus tracts.

The results of three Mantoux tests were negative. The urine was normal. Examination of the blood on Sept. 27, 1940 showed: hemoglobin, 59 per cent; erythrocytes, 3,800,000; leukocytes, 8,800, with a differential count of 56 per cent polymorphonuclear leukocytes, 1 per cent basophils, 41 per cent lymphocytes and 2 per cent monocytes; platelet count, normal; hypochromia, 1+; polychromia, 1+; poikilocytosis, plus-minus, and anisocytosis, 2+. The Kahn reaction was negative.

A roentgenogram of the chest showed numerous small round calcified areas scattered throughout both pulmonary fields. There was calcification in both hilar regions. There was no definite evidence of active pulmonary disease. A roentgenogram of the knees and hips showed a metallic foreign body in the upper third of the shaft of the left tibia and decreased density of the bone in the posterior portion of the distal third of the right femur. The flat bony pelvis showed some sclerotic changes in the right hip joint with atrophy of the bone.

DISCUSSION

DR. H. R. FOERSTER, Milwaukee: The lesions belong in the infective granuloma group, and I believe that they may be the result of indolent chronic pyogenic infection, possibly pyoderma gangraenosum.

DR. UDO J. WILE, Ann Arbor, Mich.: I suggest the diagnosis of generalized tuberculosis, based on the boy's appearance. The lesions seem to be sinuses which lead to the deeper structures and look like ordinary scrofulodermatous lesions. With the history of some lesion in the lung borne out by the roentgenogram, one would have to consider that as one of the first possibilities. Perhaps his early osteomyelitis was also of a tuberculous nature.

DR. MICHAEL H. EBERT: This boy has no fever, though he does not feel well. Repeated von Pirquet and Mantoux tests gave negative results. I realize that there are such things as negative reactions in patients who are so sick that they cannot give a positive reaction to tuberculin tests, but this boy does not appear to be so sick. He would look sicker if he had miliary tuberculosis, and particularly the condition of his lungs would be more decided in the roentgenograms. I thought the condition might be some unusual type of mycotic infection.

DR. S. W. BECKER: A few years ago I had a patient who had cutaneous tumors that underwent suppuration and drained through the skin. She was not particularly ill, though she had lost considerable weight. I thought the condition might be a subcutaneous tuberculid. She was treated by ultraviolet radiation and forced feeding. Many cultures were made from material taken from the abscesses. Finally an organism was isolated which at times was an acid-fast tubercle bacillus and at other times was a non-acid-fast organism. When this material was injected into guinea pigs the infiltrate in the spleen was typical for sarcoid.

DR. UDO J. WILE, Ann Arbor, Mich.: With regard to the diagnostic value of the tuberculin reactions in patients of this kind, the specialists in this field at the University of Michigan feel that in many instances the tuberculin reaction is negative owing to faulty administration, and they stress the much more important fact that many tuberculins become entirely inert. In a large series of cases in which tuberculin reactions have been reported as negative later examination proved that the tuberculin had lost its power as an antigen. There is a great deal that is not known about the tuberculin reaction. One can overwhelm a normal patient with too strong a dose of tuberculin. One can underestimate tuberculosis or miss tuberculosis by administering tuberculin the wrong way or in too small doses or by using tuberculin which has become inert. It seems to me that in a case of this kind, particularly one in which there are lesions in the lung and cutaneous lesions which resemble those of tuberculosis, one should assume that the condition is tuberculosis until proved otherwise. It further seems to me that one should rely on more rigid criteria than negative tuberculin reactions to rule out a diagnosis of tuberculosis. Histologic examination would be more conclusive. Has this boy ever had a productive cough or suggestive sputum?

DR. MICHAEL H. EBERT: Not that I know of.

A Case for Diagnosis (Bullous Eruption). Presented by DR. HERBERT RATTNER and DR. THEODORE CORNBLEET.

C. B., a white man aged 64, gives a history of an eruption which began about August 1940. He is a tailor and attributed the eruption, which started on the dorsa of the feet, to standing for long hours. The lesions were pruritic and after scratching became painful. He applied Vick's Vapo-Rub, which produced weeping of the eruption. Two weeks later the eruption involved the popliteal areas and the thighs. In the past twelve days it has become generalized. He states that he has ingested no drugs.

Examination reveals erythema, scaling and crusting of the skin of the legs extending to the thighs and back. Vesicles and bullae are present, many on an erythematous base but some on a nonerythematous base. Vegetations are present in both axillas and on the thighs. The mucous membrane of the mouth has smaller vesicles with an erythematous halo present.

Chemical examination of the blood revealed 40 mg. of nonprotein nitrogen per hundred cubic centimeters and 1.7 mg. of creatinine. There were 84 per cent hemoglobin, 4,370,000 erythrocytes and 16,900 leukocytes. The platelets were normal. A differential count showed 73 per cent polymorphonuclear neutrophils, 2 per cent eosinophils, 1 per cent basophils, 16 per cent lymphocytes and 8 per cent monocytes. The urine was normal. Serologic tests and dark field examination of material from a vegetative lesion in the axilla gave negative results. A culture

of feces revealed a few colonies of Staphylococcus aureus. A roentgenogram of the chest showed some bilateral infraclavicular infiltration suggestive of a tuberculous lesion.

DISCUSSION

DR. H. E. MICHELSON, Minneapolis: I thought the patient had pemphigus.

DR. M. E. OBERMAYER: I thought there were a number of features present which pointed to a diagnosis of dermatitis herpetiformis rather than to one of pemphigus. Many of the lesions were arranged in the form of herpetiform plaques, and their distribution was likewise in keeping with that diagnosis. The fact that a few vegetative lesions were present in the axillas does not necessarily rule out dermatitis herpetiformis, for a vegetating type of this disease—though rare—has been described.

DR. UDO J. WILE, Ann Arbor, Mich.: I wonder if other members of the society feel about pemphigus the way I do, not with regard to the moot question of prognosis but with regard to the diagnostic criteria. It seems to me that either this disease is changing or else the criteria have been far too rigid. As I look back, many years ago pemphigus seemed a disease very easy to diagnose; bullae were present, which arose from a nonerythematous base and were usually associated with lesions in the mouth. It seems now that the disease is much more common than I would wish it to be. Lately I have come to the opinion that I regard every patient past 50 with bullous lesions as having potential pemphigus. Recently I have had 2 patients, 1 of whom died in the last two or three weeks, whose conditions clinically started as typical dermatitis herpetiformis with a typical pruritic eruption grouping and with pigmentation. Gradually the character of the eruption changed, and the condition appeared to be pemphigus. The other patient had bullous lesions and one was seen in Miami by a physician who made a diagnosis of erythema multiforme. She had some carious teeth extracted and the eruption became generalized. Now she has typical lesions of pemphigus vulgaris.

DR. PAUL A. O'LEARY, Rochester, Minn.: I have the same viewpoint as expressed by Dr. Wile. I have often wondered whether dermatitis herpetiformis is becoming more malignant or whether pemphigus is becoming more benign. I have had about 10 patients who started with what appeared to be pemphigus vulgaris and were treated with sulfanilamide, after which the course of the disease was modified to the point of having but few bullae on the skin and mucous membranes. The continued use of a sulfanilamide derivative is necessary to maintain this state. Perhaps some of these patients have had dermatitis herpetiformis with lesions of the mucous membrane, and if so, involvement of the mouth has suddenly become rather common in dermatitis herpetiformis.

DR. RICHARD S. WEISS, St. Louis: It seems to me that this patient has a type of eruption which when shown to a group of dermatologists would produce a fifty-fifty division of opinion, one half saying pemphigus, the other half dermatitis herpetiformis. Perhaps dermatitis herpetiformis should be classified as a type of pemphigus. I do not know whether one will be able to tell over a period of two or three weeks whether or not the condition in this case is true pemphigus.

Whether there is a St. Louis type of pemphigus—that term was coined at the meeting in Ann Arbor, Mich., a few months ago—I do not know. At any rate, there is a pemphigus with which patients do not get well but have a steady downgrade course to death. On the other hand, in perhaps 30 per cent of the cases of pemphigus there is a definite cure. I have already started looking up old records to compare them with the discussions in the ARCHIVES and in the *Journal of Cutaneous Diseases*. I noticed that several patients were diagnosed as having pemphigus by half a dozen dermatologists, some of whom are sitting here today. They were treated with iron cacodylate and other arsenic preparations, with Pollitzer's solution (sodium arsenate 1 Gm. and phenol 1 Gm. in distilled water 50 cc.) and with an arsenic preparation in capsules by mouth. Some of those patients are still alive, the time varying from twenty years to five or six years, with no symptoms.

Last January a patient consulted me for what was apparently urticaria. She had wheals all over the body, and I thought she had acute urticaria. In two weeks bullae began to develop chiefly on the hands and on the exposed areas of the body. They gradually started covering almost the whole body. Soon the conjunctivas and buccal mucosa were involved, as were the eyelids. Two other dermatologists in St. Louis, independently and without knowing anything of the history, agreed with the diagnosis of pemphigus. The patient was given iron cacodylate, 1 grain (0.06 Gm.) a day intravenously. Coagulen was not given. The eosinophil count rose to 45 per cent. The bullae were emptied with a hypodermic syringe of as much as 2 cupfuls of serum a day. The value for serum protein went down, but there was a slow, gradual improvement. By the end of April there were no bullae. The patient has remained well to date. The eosinophil count dropped slowly and now is normal.

(NOTE.—On May 7, 1941 this patient was still symptom free.)

This case is an instance of a condition controlled from the beginning, the diagnosis being verified by three dermatologists as pemphigus, with freedom from lesions.

In contrast with this case is that of a patient I treated in 1922. She was given chiefly Pollitzer's solution and an arsenic preparation in capsules. She had typical pemphigus, confirmed by Dr. Robert Davis and Dr. M. F. Engman Sr. In a year and a half the eruption disappeared, and she has remained well. I feel that there are some cases of pemphigus in which the disease responds to treatment.

DR. MAURICE OPPENHEIM (by invitation): In this case the diagnosis might be pemphigus vegetans, because there are definite vegetations in the axillas. In the benign form and in dermatitis herpetiformis vegetations are never seen. The oral lesions also confirm this diagnosis.

I agree with Dr. Wile that the types of pemphigus in this country have changed. Lerzynski has pointed out that persistent erosions and bullous lesions in the mouth which cannot be influenced by treatment are suggestive of beginning pemphigus vegetans and can be considered primary lesions. Similar lesions may occur on the scalp and about the umbilicus. I regard such plaques or bullae as important for the diagnosis of pemphigus. The time which passes between the so-called primary lesion of pemphigus vegetans chronicus and the breaking out over the whole body is between six weeks and three months. I believe that if the treatment could start at the time when the primary lesion is present, it might be more successful than it is now.

I think pemphigus chronicus should be divided into the benign and malignant types. The first embraces pemphigus vegetans chronicus with all its varieties and dermatitis herpetiformis. The second type embraces pemphigus foliaceus and pemphigus vegetans. Both types are fatal. The lesions of the patient presented today belong to the malignant type of pemphigus. The lesions in the mouth and the vegetations confirm this diagnosis.

DR. FREDERICK R. SCHMIDT: About a year ago I saw a report about the color index of the blood in which the investigator claimed that patients with pemphigus who had a color index of 1 and above offered a poor prognosis and those with a color index under 1 offered a good prognosis. I wonder if any other physicians have had had occasion to watch this particular symptom.

DR. HERBERT RATTNER: Was there not a report of favorable results in the treatment of pemphigus with adrenal cortex extract?

DR. UDO J. WILE, Ann Arbor, Mich.: I have had 4 patients with pemphigus treated with adrenal cortex extract and saline solution. That was the treatment recommended by Talbot in a report of a series of patients with malignant and with more or less chronic and subacute conditions (Talbott, J. H.; Lever, W. V., and Consolazio, W. V.: Metabolic Studies on Patients with Pemphigus, *J. Invest. Dermat.* **3**:31 [Feb.] 1940). Adrenal cortex extract is given in doses of 0.5 cc. hypodermically, and the dose is increased until the patient is taking 7 or 8 cc. per day. I have used it in 4 cases of pemphigus, with absolutely no benefit. One interesting complication occurred in connection with sodium chloride. The

patients were given 15 grains (1 Gm.) of sodium chloride three times a day in capsules. One of the patients, who is still living, had severe edema from water retention. As soon as the sodium chloride was omitted from the treatment the edema subsided. There was absolutely no improvement in the pemphigus as far as I sould see. Three of the 4 patients I treated with adrenal cortext extract have died.

DR. S. ROTHMAN (by invitation): Acetarsone, which was first used by Oppenheim, is one of the most potent chemotherapeutic drugs in the therapy of pemphigus. Through its use the life expectancy of patients with pemphigus becomes twice as long, on the average. The fatal outcome can only be deferred by acetarsone, as well as by germanin; acetarsone is the less toxic drug.

DR. CLARK W. FINNERUD: I should like to ask Dr. Oppenheim if he has ever seen a patient with bona fide pemphigus, i. e., other than the so-called benign types, who recovered and stayed well. I have not.

DR. MAURICE OPPENHEIM (by invitation): I think that in no more than 5 per cent of the cases of pemphigus vegetans there is definite improvement. With the benign forms, as with dermatitis herpetiformis and pemphigus vulgaris chronicus, recovery occurs in about 50 per cent of the cases. With the malignant form of pemphigus foliaceus and vegetans the outcome is nearly always fatal. I have made therapeutic experiments in the treatment with adrenal cortex and obtained no effect. There is no doubt that germanin, blood transfusions and acetarsone have a good influence. I have a patient with pemphigus vegetans under treatment, a man aged 43, with vegetations on the flexor surfaces of the elbows, around the umbilicus and in the axillas. There were many blisters all over the body. A fatal outcome was evident. He had six blood transfusions, took germanin and improved. Now he is taking acetarsone and is much improved. The type of pemphigus vegetans has changed under this treatment. He shows only a few small blisters, and the lesions in the mouth and the vegetations have subsided.

DR. HERBERT RATTNER: Perhaps the classification of pemphigus needs revision. Some have the opinion that pemphigus foliaceus should not be included with the disease pemphigus.

DR. THEODORE CORNBLEET: It is customary now to consider the possibility of a virus for many diseases of unknown cause. This is so with pemphigus. Maybe St. Louis is distinguished not only for having a special variety of encephalitis—the St. Louis type—but also for its special, more easily curable type of pemphigus.

I am rather loath to make a definite diagnosis of any of these severe bullous eruptions because of my experience with a number of cases at the Cook County Hospital. The condition often turns out to be a disease other than the one first suspected most seriously. I feel that this experience may again be repeated in the case of this man. We first thought he had dermatitis herpetiformis. He had definite groups of lesions, preponderantly on the extensor surfaces. The bullae appeared in crops on the sacrum and buttocks. It is true that many lesions are in the inguinal folds and in the axillas. I do not feel that the vegetations present there, however, are those of pemphigus vegetans. I feel that they are small simple vegetations of pemphigus vulgaris induced by heat and friction. The course of the illness here is not characteristic of pemphigus vegetans. The vegetations today seemed to me to be smaller than when I first saw them last week.

The point brought up by Dr. Schmidt about the color index suggests the presence of an element of primary anemia. I have given several patients with pemphigus sufficient liver extract to influence any pernicious anemia which might have been present. In none of these patients, however, was such therapy of any benefit.

DR. HERBERT RATTNER: I think Dr. Schmidt's point is interesting, for with the Pels-Mach test in cases of primary anemia results have been obtained that were similar to those in pemphigus.

Incidentally, there is a patient with pemphigus foliaceus at the Cook County Hospital to whom small doses of sulfanilamide were given daily for a period of four years without harmful results.

Dermatitis Herpetiformis. Presented by Dr. D. V. Omens, Dr. R. Reifler (by invitation) and Dr. A. Falk (by invitation).

F. C., a 4 year old white boy, is presented with a vesicular and bullous eruption of about ten months' duration. He was a full term infant at birth, and delivery was normal. There is a younger brother, 2 years old, who had an eruption on the face at 2 months of age, which cleared with treatment; he has had no eruption since. The patient had bronchopneumonia at the age of 6 months, measles and chickenpox at 1½ years, diphtheria at 2½ years and whooping cough in January 1940. He was vaccinated at the age of 1½ years. After the diphtheria enuresis eight to ten times a night developed, and it has persisted to the present time. The Schick test still gives positive reactions. In the latter part of January 1940, while the child was still suffering with pertussis, the mother noticed blisters about the genitalia. A short time later similar lesions developed on the shoulders, the neck and the extremities and around the navel. These would last a few days and then heal completely. The child would remain well for a month or so, and then new crops of blisters would develop and heal. At first subjective symptoms, such as pruritus, were slight, but recently itching has become severe enough to interfere with sleeping. Also blisters have developed in the scalp since July. None have developed in the oral cavity. The condition was diagnosed as pemphigus by an out-of-town physician, who prescribed arsenic in drop doses; and after the first day the child's face became swollen, so he was not given any more. He then received grayish tablets, one three times a day for five days, after which all lesions seemed to heal for one day before new ones appeared. There is no history of any similar disease in the family.

Examination reveals a well developed and nourished boy who does not appear acutely ill. The heart, lungs and abdomen are essentially normal. Posterior auricular and inguinal glands are palpable. On the scalp are scattered crusted lesions with matted hairs. On the shoulders, the extremities and the trunk, including the genitalia, are roughly grouped and scattered isolated lesions in various stages of development from vesicles, bullae, raw denuded areas of broken lesions, crusts and healed hypopigmented lesions. Some of the vesicles arise from normal skin, and others have an inflammatory base. The contents of the vesicles and bullae are clear, and the overlying epidermis is tense.

Examination of the blood on Oct. 15, 1940 showed 70 per cent hemoglobin, 4,370,000 erythrocytes, 13,000 leukocytes and normal platelets. The differential count showed: 42 per cent polymorphonuclear leukocytes, 6 per cent oesinophils, 2 per cent basophils, 46 per cent lymphocytes and 4 per cent monocytes. Urinalysis gave negative results.

DISCUSSION

Dr. Francis E. Senear: Last year a young girl from Toledo, Ohio, was brought to the department of pediatrics, Research and Educational Hospital, University of Illinois, and recovered temporarily after treatment with sulfapyridine (2-[paraaminobenzenesulfonamido]-pyridine). When administration of the drug was stopped the eruption reappeared.

Dr. Minnie Perlstein: The patient mentioned by Dr. Senear after returning to Toledo had a relapse and was again given sulfapyridine, with complete recovery. A second recurrence again responded to sulfapyridine, and the child has remained well.

Dr. Clark W. Finnerud: The 2 patients Dr. Oliver and I had in the Children's Memorial Hospital, both high-strung children like the one presented, recovered with treatment with solution of potassium arsenite U. S. P. and, as far as we know, after a few minor recurrences remained well.

Dr. D. V. Omens: I have had occasion to see dermatitis herpetiformis in children and in young adults. I find they have severe outbreaks and that after the acute symptoms subside, they gradually recover and remain well for long periods. I have known of 4 cases in the last two years in which there has not been a recurrence of the dermatitis herpetiformis. The question is, was the disease dermatitis herpetiformis? The patients presented the same kind of a picture this child presents.

HERBERT RATTNER, M.D., *President*

MICHAEL H. EBERT, M.D., *Secretary*

Nov. 20, 1940

Lupus Erythematosus Discoides of the Face with Involvement of the Oral Mucosa. Presented by DR. TIBOR BENEDEK (by invitation).

Spiegler-Fendt Sarcoid (Localized Form). Presented by DR. MARCUS R. CARO.

L. W., a white woman aged 45, was presented before this society twice previously (ARCH. DERMAT. & SYPH. **22**:1086 [Dec.] 1930; **32**:689 [Oct.] 1935).

DISCUSSION

DR. MARCUS R. CARO: I am showing this patient for the third time because when I presented her ten years ago and five years ago the diagnosis of Spiegler-Fendt sarcoid was not accepted. The condition was considered to be leukemia or lymphosarcoma. I have observed the patient since then and have examined the blood frequently; at no time did the leukocyte count go beyond 8,000, and the differential count has been normal. About a year ago a new lesion appeared on the thigh. More recently a small nodule appeared on the right buttock, and the scars resulting from the old lesions became darker in color and more infiltrated again. The blood count is normal at present.

A report of this case was included in Irgang's recent paper on lupus erythematosus profundus. I do not believe that it belongs there. I still feel that the condition in this case is a good example of the localized form of Spiegler-Fendt sarcoid.

Neurotic Excoriations. Presented by DR. MAURICE OPPENHEIM (by invitation) and DR. D. COHEN (by invitation).

Z. T., a white woman aged 40, presents on the entire face continuous scarring interrupted by areas of hypertrophic scars. Part of the frontal area of the scalp is also involved. There is a cicatricial ectropion of both lower eyelids. In many areas the openings of the sebaceous glands are enlarged. The scars are partly smooth and pale, although some are red and raised above the level of the skin with a cushion-like effect. On the chin there is a red nodule, not sharply marginated and partly with crusts in the center (folliculitis). The same condition is present on both forearms, but with no scarring. The hair is absent in parts of the eyebrows and scalp.

According to the history, she has had a compulsion to scratch and mutilate her face for about five years. She "digs her face to get something out" and also complains of having "large pores." She has squeezed, scratched and dug with the aid of pins, scissors, tweezers and needles to accomplish her purpose.

Psychiatric examination by the late Dr. H. Douglas Singer revealed a deep underlying compulsion neurosis based on religious and marital problems.

Psychotherapy was given during 1938-1939 and also a series of metrazol treatments. The patient did not respond well. Psychiatric treatment is again being given, with encouraging results.

Histologic examination of the lesion on the forehead revealed folliculitis and perifolliculitis.

The Kahn reaction was negative. Examination of the blood showed 4,780,000 erythrocytes, 80 per cent hemoglobin and 6,150 leukocytes, with a differential count of 59 per cent polymorphonuclear leukocytes and 41 per cent lymphocytes.

The patient now desires some type of plastic surgery.

DISCUSSION

DR. FRANCIS E. SENEAR: I had this woman under observation at the clinic for several years. At present she shows only the residual changes. When I first saw her she had in the left temporal region a round ulcer, about 1½ inches (4 cm.) in diameter, and deep scattered lesions of smaller size but of the same type elsewhere on the face. She gave the characteristic history of neurotic excoriations of the more severe type; she stated that reddish lumps developed in the skin and she felt she would not get relief unless these were removed. She used a pair of manicure scissors and a pair of tweezers and worked for hours.

DR. OLIVER S. ORMSBY: The extent of damage that patients of this kind do is unbelievable. Some years ago I had a patient, a young woman from a fine family, who produced a lesion with an opening about the size of a dime and with an underlying excavation large enough to hold a walnut. She used scissors and sometimes hairpins for excavating purposes. She would spend all her time working on her face, believing that there was some foreign substance that had to be removed.

Another patient, an heiress, mutilated her face in a similar manner. She knew what she was doing but could not resist the impulse to dig into the skin. There was an intolerable desire to remove some imaginary substance in the tissue.

DR. MAURICE OPPENHEIM (by invitation): It is extremely rare to see self mutilation on the face of a woman. All mutilations I have seen up to this time except in 1 case were on the arms and legs. The pathologic and histologic background in this case and in a case which I observed in Vienna is folliculitis and perifolliculitis of the face. A biopsy definitely proved the presence of folliculitis and perifolliculitis and the formation of horny cysts.

Epidermal Cysts Due to Injection of Protamine Zinc Insulin. Presented by DR. THEODORE CORNBLEET and DR. R. REIFLER (by invitation).

M. A., a white girl aged 17, suffering from diabetes mellitus, was admitted to the Cook County Hospital in January 1940 in a precomatose condition. On being discharged from the hospital she was given regular insulin and protamine zinc insulin. The regular insulin she injected into the right thigh and the protamine zinc insulin into the left thigh. Shortly thereafter she noticed small red bumps on the left thigh at the site of the injections, which were not particularly tender and which have remained to the present time. She states that some have gotten smaller and a few have disappeared. At times a little pus would develop in a lesion. She was readmitted to the hospital in April 1940, because of uncontrolled diabetes and furuncles of the left thigh. For the past few weeks she has been injecting the insulin into the arms and into the skin of the abdomen.

The past history is not significant except that the patient has never menstruated. There is no history of diabetes in other members of the family.

Examination reveals a well developed, slightly obese girl with a flushed round face. The neck is full, and the thyroid is palpable. Axillary and pubic hair is sparse. On both arms nontender nodules, movable with the skin and covered with normal epidermis, are palpable. On the left side of the abdomen there are a few scattered erythematous pea-sized nontender papules, some of which are indurated, covered with a crust or scale at the site of injection of protamine zinc insulin. Similar but closely set papules are seen on the lateral surface of the left thigh. A few are topped by a pustule. On the right thigh nodules similar to the ones on the arms are palpable but are covered by dull erythematous epidermis. The abdomen is scaphoid from the epigastrium to the umbilicus, where it becomes round in the midline as if raised by some underlying mass and continues thus into the pelvis. On palpation there is increased resistance in the lower part of the abdomen with diminished tympany to dulness on percussion.

On admission to the hospital, on Nov. 18, 1940, the urine showed a 4 plus reaction for sugar and a 1 plus reaction for acetone. The fasting blood sugar

content on November 19 was 300 mg. per hundred cubic centimeters. The patient has been given a diabetic regimen, and the diabetes is being controlled.

DISCUSSION

DR. HARRY R. FOERSTER, Milwaukee: The histologic picture supports the diagnosis, though the appearance of the lesions on the left thigh is strikingly like that of neurotic excoriations. I should like to ask Dr. Cornbleet if there have been supplementary injections under controlled observation that produced the same lesions and also if he explains the lesions as the result of a specific sensitivity to zinc or to autolysis produced by the insulin.

DR. EARL D. OSBORNE (by invitation), Buffalo: I am interested in this case because I have seen several examples of the same condition following hypodermic injections of other substances. I saw an asthmatic young man with lesions on the arms, from the wrist to the shoulder, on the legs, from the hips to the ankles, and on the trunk which were due to injections of epinephrine. I have also seen mild conditions due to the habitual use of morphine. I believe that in this case the cyst formation is purely incidental and has nothing to do with the picture. I believe the condition is a tissue response to the injection of a foreign substance.

DR. CLEVELAND WHITE: I think the lesions on the arm where she had numerous injections are traumatic.

DR. MARCUS R. CARO: Clinically this condition does not look like the conditions reported by Dr. Wien and me as traumatic epithelial cysts (Traumatic Epithelial Cysts of the Skin, *J. A. M. A.* **102**:197 [Jan. 20] 1934), but the histologic picture is the same. It has been theorized that as a result of an injury small bits of epidermis may be implanted under the skin, and their growth may lead to the formation of the cysts. Also, in experiments foreign bodies have been inserted under the skin and epithelial cysts have developed about them. It might be a good plan to remove several of these lesions to see whether the same histologic picture of cyst formation is present in all.

DR. S. W. BECKER: Experimental studies have been carried out with implanting of epithelioma deep in the cutis. The epithelioma was absorbed, and no cysts were produced.

DR. THEODORE CORNBLEET: Injections of the new types of insulin with zinc have given rise to various kinds of reactions, more than with the older simpler insulin. It is my opinion that reactions may occur because of the length of time that the metal is deposited in the skin. I think that is shown somewhat in this case by the fact that the lesions occurred on the thighs only, although the same type of injection was given in the arm without any reaction there. It may be that absorption takes place faster in the arm than in the thigh, paralleling the rates of the return circulation. The return circulation in the thigh is slower; so the zinc would remain in situ for a longer time.

Another suggestion by one of the residents is that the girl in making the injections used a rather short needle and inserted it in an oblique direction. Because the skin of the thigh is much thicker than that of the arm, it is possible that the injections in the thigh did not entirely penetrate the skin and an intradermal depot was formed. The epidermis then grew down the needle track and around this depot.

The most common types of permanent cutaneous changes from protamine zinc insulin have been simple atrophy or keloid formation. My feeling is that the cysts formed after chronic irritation from the deposit of zinc compounds.

DR. MARCUS R. CARO: The girl told me that the injections of protamine zinc insulin were given in the thigh all the time up to two weeks ago, and the injections in the arm only for the past two weeks. That would hardly be enough time for pathologic lesions to develop on the arm.

DR. THEODORE CORNBLEET: The history the patient gave me was different from that which she gave Dr. Caro.

A Case for Diagnosis (Dermatitis Herpetiformis?). Presented by Dr. Edward A. Oliver and Dr. Julius E. Ginsberg.

J. B., a 38 year old German woman, was first seen in the Northwestern University dermatologic clinic one week ago. She presents a bilateral vesiculobullous eruption of the trunk of seven weeks' duration following her pregnancy. The excoriated papules and vesicles on the back are arranged in groups, while the lesions on the abdomen are gyrate and circinate and from 4 to 10 cm. in diameter. Lesions spread peripherally, clearing in the center and crusting at the borders. There is moderate itching and no malaise.

Primary lesions—unruptured vesicles and bullae—on a slightly inflammatory base can be seen.

The patient has had six pregnancies. The first three were normal. Of the last three, two resulted in spontaneous abortions, the first at about two months and the second at six months, and the third resulted in a stillbirth at term. This last pregnancy terminated September 25, and the present eruption started two weeks later. The patient is otherwise in good health.

Scrapings from lesions showed no fungi. The Kahn reaction was negative. The red and white blood cell counts were normal, with 4 per cent eosinophils. A patch test with 50 per cent potassium iodide in petrolatum applied yesterday gave a negative reaction today.

DISCUSSION

Dr. A. W. Stillians: I think dermatitis herpetiformis is the most likely diagnosis.

Dr. Maurice Oppenheim (by invitation): The differential diagnosis in this case is difficult. Dermatitis herpetiformis, impetigo contagiosa circinata, impetigo herpetiformis, herpes gestationis and some rare forms of ringworm must be considered. I think the diagnosis of dermatitis herpetiformis is the most proper one, but I should not completely rule out herpes gestationis.

Dr. Julius E. Ginsberg: There are grouped papulovesicular lesions extending over almost the entire back and lower extremities which are characteristic of the textbook description of dermatitis herpetiformis. I suggest a diagnosis which Dr. Ormsby has suggested in his book, that is, an erythematous form of dermatitis herpetiformis.

Progressive and Recurrent Dermatofibrosarcoma. Presented by Dr. James R. Webster and Dr. R. H. Scull (by invitation).

D. J., a Negro aged 60, presents a condition of sixteen years' duration, which began as a pea-sized movable hemispherical nodule on the right side of his forehead. This grew to marble size and then was removed surgically in Sandersville, Ga. Two years later a lesion recurred in the same location with additional satellite lesions over the malar prominence of the right cheek. These were treated again successfully with radium. After eleven years the lesions began to recur. By this time the patient had moved to Chicago and attended Cook County Hospital, where the lesions were again surgically removed. After one year the patient entered Provident Hospital with the present scars, recurrences of similar lesions and, in addition, new lesions, most of which are present today, save one which was removed for biopsy.

Examination reveals a large indurated swelling of the right cheek, with several aberrant (hemispherical) lesions of a similar character, varying in size from 0.5 to 2.5 mm.

The Wassermann and Kahn reactions were negative. Chemical examination of the blood gave negative results, and the results of other laboratory tests were essentially within normal limits.

A histologic section showed a neoplastic fibromatous growth unusually rich in cells. The early fibrous nodules resembled spindle cell sarcoma. Newly formed capillaries were found in the tumor tissue.

DISCUSSION

DR. FRANCIS E. SENEAR: I do not know that I have ever seen this condition in a Negro, and consequently the color definitions are limited. He does not show the tomato redness seen in some of the lesions in white patients. Making allowance for the colored skin, I do not think from a clinical standpoint that there is any question about the diagnosis as presented. The pathologic picture confirms that diagnosis. He had surgical treatment for the small nodule, which apparently was not successful. According to the literature and to personal experience, complete recovery takes place after surgical intervention if it is sufficiently extensive. Good results are not expected from radium therapy. The problem is a real surgical one now with the extensive involvement of the face. This patient is also the first one I have seen with involvement of the face. In most of the cases I have encountered the condition was on the abdominal wall or on the chest.

Granuloma Fissuratum. Presented by DR. RALPH B. COOMBER (by invitation).

C. H. G., a white man aged 52, a patient of Dr. Clark W. Finnerud, was first seen on Nov. 8, 1940, with a growth under the upper lip of three years' duration. He thought it was the result of ill-fitting dentures which had been installed ten years previously. There was no tenderness or other sensation. He was worried about cancer.

Examination reveals a semiglobular soft nodule of the mucous membrane of the under surface of the upper lip at its middle. The lesion is about 2 cm. in anteroposterior and 1 cm. in transverse dimensions. It consists of three or four transverse rugae and has a deep transverse fissure coursing its center. All the teeth have been removed, and the patient has full upper and lower plates. There is redundant tissue of the upper gum margin in front.

Histologic examination showed moderate acanthosis. There was mild chronic inflammatory reaction in the cutis, the cellular infiltration being largely perivascular.

DISCUSSION

DR. LESTER M. WIEDER, Milwaukee: The lesion is typical but unusually large.

DR. S. W. BECKER: The clinical and microscopic pictures and the history are typical for this condition, which has been known to dentists for a long time but was called to the dermatologists' attention by Dr. Sutton. The patient presented had a dental plate which fitted perfectly in the beginning but later became loose. The constant friction of dental plates will produce this hyperplasia in susceptible persons. In one patient a lesion developed in the superior sulcus and later one in the inferior sulcus from the lower plate. If the patient does not wear the plate for a few weeks there will be a considerable diminution in the size of the tumor. When the edema and inflammation subside, the crust can be snipped off and the base cauterized. One should be certain that the next plate fits perfectly.

A Case for Diagnosis. Presented by DR. JAMES R. WEBSTER and DR. HAROLD D. OMENS (by invitation).

Mrs. A., a white woman aged 32, has had trouble with the skin for approximately fifteen months. The first lesion noticed was on the right arm between the elbow and shoulder with the next one on the left hip, and the other lesions have appeared subsequently. The lesions are said to begin as deep lumps which gradually approach the surface and become discolored but do not ulcerate. There is occasional itching, which is said to be severe especially if the skin is cooled. She has had many different local applications and states that she has been given arsenic and calcium by mouth without influencing the eruption.

The past and family histories are without significance, and there is nothing suggestive of primary or secondary syphilis.

At present the patient has several fairly well defined patches on the extremities and hips showing faint erythema, a mottled pigmentation and faint atrophy. Within

some of these areas there are small reddish but not palpable nodules. Some have a suggestion of a serpiginous border.

The Wassermann reaction was negative in our laboratory and was said to have been negative elsewhere before.

A Mantoux test with a 1:100,000 dilution of old tuberculin elicited a doubtful reaction the first time and a definitely positive reaction a week later.

A roentgenogram of the chest was normal. Examination of the blood showed 85 per cent hemoglobin, 4,270,000 erythrocytes and 10,000 leukocytes, with a differential count of 61 per cent neutrophils, 2 per cent eosinophils, 35 per cent lymphocytes and 2 per cent monocytes.

Histologic examination showed normal epithelium except for much pigment in the basal layer. In the corium there was some thickening of the walls of the deeper blood vessels, and in all layers of the skin there was a well defined perivascular infiltrate consisting chiefly of lymphocytes, with some connective tissue cells, a few epithelioid cells and practically no plasma cells. There was considerable golden brown pigment in the upper corium and some scattered infiltrate.

No therapy has been given.

DISCUSSION

DR. MICHAEL H. EBERT: At first sight the condition appears somewhat like tertiary syphilis of rather widespread distribution, with clearing in the center and nodules on the border and without any ulceration. At one border there seemed to be some signs of atrophy. However, the sections I saw did not bear out the diagnosis.

Another diagnosis to be thought of is some form of tuberculosis, particularly sarcoid, but there is nothing in the sections to uphold this.

DR. JAMES R. WEBSTER: Our feelings in the matter are very much like those of Dr. Ebert. We changed the diagnosis back and forth from nodular syphilis to a superficial form of cutaneous sarcoid.

Leiomyoma Cutis. Presented by DR. DAVID V. OMENS and DR. HAROLD D. OMENS (by invitation).

J. C., an unmarried American woman aged 25, a stenographer, presents a condition of fifteen years' duration involving the extensor surfaces of the arms and legs. It is composed of large areas of grouped pinkish red papulonodules, somewhat translucent and firm to touch. These lesions become sensitive on exposure to cold, but otherwise there are no subjective sensations. The lesions do not change but gradually increase in number. The parents and the patient are of the opinion that the condition started after prolonged exposure to extreme sunlight.

Serologic tests for syphilis gave negative results. The basal metabolic rate was +10 per cent. Examination of the blood showed 74 per cent hemoglobin, 4,170,000 erythrocytes and 5,000 leukocytes, with a differential count of 50 per cent neutrophils, 5 per cent monocytes, 2 per cent eosinophils and 43 per cent lymphocytes. The urine was normal.

DISCUSSION

DR. OLIVER S. ORMSBY: I was interested in this case because it was almost identical with one I presented some years ago. In a study of the disease at that time (Leiomyoma Cutis, ARCH. DERMAT. & SYPH. **11**:466 [April] 1925) I was able to demonstrate the point of origin to be in the muscular fibers of the arrectores pilorum. I also suggested that the pain was due to fibrosis and that the tumor had an increased number of nerve fibers. I was unable to prove this point because there were no stains available at that time.

DR. MICHAEL H. EBERT: The method used was really not a stain but a precipitation with silver. It is similar to the one used in the study of nevi. With this method I succeeded in demonstrating a large number of nerve fibers in this tumor, far more than would be seen in fibroma or any tumor of that type. I could also see where they had their origin. The lesion really is a neuroleiomyoma. That probably accounts for the fact that it is extremely sensitive to touch.

A Case for Diagnosis. Dr. R. H. Scull (by invitation).

C. W., a Negro aged 35, has had a condition for sixty days involving the scalp, the alae of the nose, the upper and lower lips, the back, the trunk and the legs. He states that he had some scaling in the scalp prior to the onset of the present lesions.

On examination there are several nickle-sized to dime-sized areas of alopecia of the scalp associated with many thick greasy scales. The eyebrows, the alae of the nose and the lips show a fairly well demarcated erythematous lesion, covered with some adherent greasy scales. On the trunk and body there are circumscribed superficial scaly round and oval lesions, varying in size from that of a dime to that of a dollar, with the long axis of the oval lesion in the lines of cleavage. On the left leg there are two palpable painful subcutaneous lesions, which the patient states appeared with the aforementioned condition.

The results of laboratory tests were essentially negative. The patient was first seen yesterday, so biopsy reports are not available.

DISCUSSION

Dr. Cleveland White: This condition is a ringworm infection of the scalp with dermatophytid of the body. I observed 1 case with Dr. Osborne. Only 14 cases of ringworm of the scalp in adults have been reported in the English literature.

Roentgen Ray Dermatitis. Presented by Dr. Herbert Rattner and Dr. Maurice Dorne.

A. H., a white woman aged 35, presents an eruption on and around both ears consisting of telangiectasia, atrophy and ulcerations. The upper portion of the right ear has been completely destroyed.

The ears have been treated at intervals since childhood. For a period of five years a radiologist had treated her with roentgen rays at irregular intervals, the last time in May 1940. Two weeks later the ears assumed a "raw-meat-like" appearance, which was treated with various applications, includinging Aloe vera leaf.

She is presented for therapeutic suggestions.

DISCUSSION

Dr. Earl D. Osborne (by invitation), Buffalo: From my experience with cases of roentgen ray dermatitis I feel there is only one method of treatment, and that is plastic surgery by an experienced surgeon. I do not think results can be obtained in the case presented today in any other manner. Certain parts of the cartilage will have to be resected. It will require considerable skill to make the woman presentable.

Dr. James H. Mitchell: May I say a word about the harm that may be done by not telling the patient. A patient I have had under observation for five or six years for roentgen ray dermatitis due to treatment of two plantar warts consulted me whenever these bothered him, and I would give him whatever treatment was indicated. I never mentioned roentgen ray burn. He went to the Southwest, which he usually did during the winter months, and on his return consulted me for two areas of third degree radiodermatitis on top of the old chronic condition. I asked what had happened. He said: "I dropped in to see a doctor, and he said we will fix these warts; we will just slap on some radium." Now he has a serious condition.

Dr. Edward A. Oliver: While on the subject of roentgen ray dermatitis, I had an experience about three weeks ago with a patient who was treated some years ago. When I first saw her she had areas about each ala nasi and in one ear of chronic roentgen ray dermatitis. She complained especially of dryness of the skin. There was some telangiectasia and a little atrophy but no signs of keratosis or epithelioma. I say this because Dr. Osborne stressed the other type. I have watched this woman at irregular intervals over a period of five years and she has

never shown any signs of trouble other than the dryness. When she consulted me three weeks ago, she was angry because she had been told in California that she had a roentgen ray burn and had been advised to have a complete resection of these parts. This would have meant taking off most of the nose and a good portion of the upper lip. I explained to her that while I knew she had roentgen ray dermatitis, I did not believe that it would make her any happier to know that. In her case there was no need for excision and a plastic operation. I believe that when there is a chronic roentgen ray dermatitis which does not require a plastic operation, it does not help to tell the patient that he has such a condition. I tell such patients that I believe they have had enough roentgen rays and should have no more.

DR. HARRY R. FOERSTER, Milwaukee: From the observation of a number of cases it appears that roentgenologists frequently fail to recognize the early signs of roentgen ray damage. I have encountered cases of such damage in which additional roentgen treatment has subsequently been given. I have followed the practice of not discussing the changes but advising patients with roentgen ray dermatitis not to submit to more roentgen ray treatment, with the statement that more is not likely to do good, since the treatment has been given a thorough trial. As regards treatment in this case, the patient stated that Aloe vera leaf had been used without benefit. Dr. Wieder and I have had recent success with an Aloe vera ointment prepared by the Almay Company, though previous experience with a number of ointments of this kind has not been satisfactory. I believe conservative treatment should be given a further trial because of the difficulties likely to be involved in a surgical procedure.

DR. FREDERICK R. SCHMIDT: I am in favor of following conservative treatment. I do not think the patient gave the Aloe vera leaf therapy a fair trial.

DR. OLIVER S. ORMSBY: I should like to ask Dr. Foerster if he has used alvagel (a proprietary ointment containing Aloe).

DR. HARRY R. FOERSTER, Milwaukee: Yes.

DR. JAMES H. MITCHELL: My personal experience is that the 12 per cent white wax in cod liver oil is more efficient than the Aloe vera leaf. I have used it in many cases and have used it routinely for roentgen ray reaction following the treatment of epitheliomas. I have seen patients who were highly sensitive to Aloe vera leaf. I suggest that every one who uses it first make a patch test.

DR. M. E. OBERMAYER: I have been using for the last few months a substance which consists of nickel and pectin. It is produced by one of the pharmaceutical manufacturers under the proprietary name of nipectin. I feel that in instances in which for reasons of location or sensitivity Aloe vera leaf cannot be used this substance may be employed as an alternative. Sufficient time has not yet elapsed to form a definite opinion about the efficacy of the substance, but I feel that it is at least worth trying. It has given satisfactory results in 1 patient with roentgen ray dermatitis.

DR. JAMES H. MITCHELL: Some persons are sensitive to nickel and get a dermatitis from it. Therefore, it would be well not to use this ointment without first making a patch test.

DR. MAURICE DORNE: The question was raised about roentgenologists treating patients with roentgen ray dermatitis. The dermatitis in the patient presented developed after her last treatment in May. She had received treatments at intervals for five years. In April a new machine was installed at the hospital that she attended, and it was found at a later date that the new tube had an inherent filtration of 5 mm. of aluminum. I suggested that it would be well to avoid any further superficial therapy with this machine.

Pemphigus Vulgaris. Presented by DR. MAURICE OPPENHEIM (by invitation) and DR. D. COHEN (by invitation).

P. A., a Lithuanian aged 60, presents a generalized eruption involving the scalp, face, trunk, upper and lower extremities and mucous membranes of four months' duration. Three months prior to this eruption the patient noticed several blisters

on the scalp which did not heal and were not pruritic. There was no history of ingestion of drugs or of any previous similar attacks. The generalized condition appeared first on the wrists, axillas, groin, trunk and mucous membranes. At the onset and with the occurrence of new lesions some pruritus is present, but this rapidly disappears. In many places vesicles and bullae seem to arrange themselves at the periphery of the erythematous areas. Some lesions occur on normal skin, others on erythematous skin. This was especially noticed about the groin and axillas. Now there are new blisters and erosions on the penis, elbows, knees and trunk. On the left side of the hard palate an erosion is present. On the entire trunk there is a morbilliform erythema. Few of the new blisters are located on normal skin. The Nikolski sign can be elicited.

Many of the lesions have now undergone involution, leaving no pigmentation or scars.

Examination of the blood revealed 90 per cent hemoglobin, 4,500,000 erythrocytes and 8,150 leukocytes, with a differential count of 61 per cent polymorphonuclear leukocytes, 51 per cent lymphocytes, 5 per cent eosinophils and 5 per cent transitional forms.

Determinations of calcium in the blood were: on Oct. 25, 1940, 4 mg. per hundred cubic centimeters; on November 2, 5 mg., and on November 16, 12.6 mg.

The blood test for indican gave negative results. The urine was normal.

A smear of material from a bleb showed a few polymorphonuclear cells and a few lymphocytes.

For treatment the patient has been given acetarsone, blood transfusions, daily oatmeal baths, 5 per cent boric acid ointment, calcium with viosterol and a high vitamin diet.

DISCUSSION

DR. EDWARD A. OLIVER: Last year at the Ann Arbor meeting in the discussion of a case of pemphigus, I had occasion to recall a case of pemphigus in an elderly Jewish woman that I had seen some years previously (ARCH. DERMAT. & SYPH. **42**:716 [Oct.] 1940). Dr. Senear had also seen this patient with me on several occasions. She consulted me because of a moist lesion on the vertex of the scalp that looked like an ordinary lesion of seborrheic dermatitis. It was about the size of a half-dollar. Shortly afterward a similar lesion developed on the cheek under her right eye. These patches defied treatment for several months. I used all of the remedies that I had been accustomed to use for seborrheic dermatitis with no resulting improvement. One morning her daughter telephoned me that her mother could not come to the office because she had a severe generalized eruption. I called on her that afternoon and found her literally covered with bullous lesions of pemphigus. She died within a week or two. The patient seen at Ann Arbor last year also had an initial lesion on the scalp, and I believe that these cases with initial lesions of the scalp are more common than it is believed.

DR. DAVID LIEBERTHAL: I can add to this case another one observed about twenty years ago. The patient, a man aged 65, came in with a lesion on the scalp which looked like seborrheic eczema. A few blisters developed on the trunk, and the patient was referred to Dr. Ormsby, who had him under observation at the Presbyterian Hospital. The patient died within two or three months.

DR. EARL D. OSBORNE (by invitation), Buffalo: I think it ought to be pointed out that in many cases of pemphigus the condition begins in the scalp. It is almost impossible to recognize the true characteristics of the lesions in this region. Usually several weeks or months elapses before a diagnosis is made. I have observed 4 cases of this kind.

DR. FREDERICK R. SCHMIDT: This patient's color index is now 1. I should like to have the presenter watch the color index throughout the course of the man's illness.

DR. MICHAEL H. EBERT: I noticed in the history that viosterol and calcium had been used in the treatment of this patient. I wonder if Dr. Oppenheim used the large doses suggested by Tauber and Clarke (Treatment of Pemphigus with

Concentrated Viosterol, ARCH. DERMAT. & SYPH. **40**:82 [July] 1939). The 350,000 or 400,000 units of vitamin D which they used caused the lesions to disappear, and if the patients died they died of something else.

DR. FRANCIS E. SENEAR: I had an opportunity to see an unusual initial lesion in a patient some months ago. The entire palate was covered by a single lesion, which was a soft pultaceous mass of membranous type, movable over the underlying structures. My first thought was that it was due to a mycotic infection. Mycologic studies, however, gave negative results. The next time I saw the patient the membrane had loosened spontaneously, and the erosive surface underlying it made me think of pemphigus. About six months later I was told she had had a generalized bullous eruption and had died with typical pemphigus within a couple of months.

DR. JAMES H. MITCHELL: Several years ago I saw a patient who had been treated for Vincent's angina. He had a fairly well outlined lesion on the soft palate. The tenderness was extreme. I examined him thoroughly, but he did not have any cutaneous lesions. I sent him to the Presbyterian Hospital and also sent the serum to Dr. Pels for examination; it showed positive reactions. Within a week the patient was covered with bullae, and within four weeks from that time he was dead.

DR. MAURICE OPPENHEIM (by invitation): As regards the primary lesion in pemphigus, most of the conditions are of a malignant type if the primary lesion starts in the mouth. This is pemphigus vegetans usually. In certain cases of pemphigus there is a primary lesion which is resistant to treatment. This lesion can be like seborrheic eczema or impetigo on the scalp. The interval which precedes the generalized eruption is between six weeks and three or four months. I have 3 patients now under treatment. One has pemphigus vegetans, which started about four months ago with a lesion on the scalp and in the axilla. Six weeks later a generalized rash and vegetations appeared, with lesions in the mouth. Two other patients started with primary bullous lesions on the scalp. There were no other symptoms until three or four months later. Then a generalized bullous eruption appeared, with lesions on the mucous membranes of the mouth.

DR. HERBERT RATTNER: Wells, Humphreys and Donaldson (*Proc. Inst. Med. Chicago* **13**:217 [Nov.] 1940) published an article on the degeneration of the adrenal cortex produced by germanin (Bayer 205). Talbott and Coombs (Pemphigus: Experimental Studies on Thirty-Four Patients, ARCH. DERMAT. & SYPH. **41**:359 [Feb.] 1940) have suggested that patients with pemphigus suffer from adrenal cortical insufficiency.

A Case for Diagnosis (Moniliasis?). Presented by DR. HERBERT RATTNER and DR. THEODORE CORNBLEET.

T. T., a white man aged 46, was well until five years ago, when itching and cracking developed between the toes followed by patches of redness and weeping in the intertriginous areas. He has had treatments of many sorts, usually topical remedies, of which compound ointment of benzoic acid N. F. gave him the most relief. The condition has never entirely cleared.

Examination reveals sharply demarcated moist erythematous areas in both axillas, about the umbilicus, in the groin on both sides and on the feet. Peripheral activity of the patches is present.

Blood counts, serologic reactions, results of chemical examination of the blood and blood sugar determinations were normal. The trichophytin test with a dilution of 1 to 30 gave a suggestive reaction, while the result of an oidiomycin test with a dilution of 1 to 300 was negative.

DISCUSSION

DR. JAMES H. MITCHELL: I examined the patient and removed some scales. Clinically the condition appeared to be either a seborrheic dermatitis or an atypical psoriasis rather than moniliasis. The patient had some pitting of the nails, particularly that of the right little finger.

NOTE.—Later a large amount of scales was collected from various parts of the body and carefully examined microscopically, with negative results for Monilia. Culture produced nothing but Staphylococcus aureus.

DR. CLEVELAND WHITE: I am inclined to agree with the clinical diagnosis. Monilia albicans can produce a severe local reaction, much different from that caused by Trichophyton. For that reason more time needs to be spent looking for fungi.

DR. LESTER M. WIEDER, Milwaukee: The condition appears to be typical seborrheic dermatitis of mild degree, involving the scalp and ears in its common form. Elsewhere the process suggested moniliasis.

DR. THEODORE CORNBLEET: A familiar type of psoriasis appears predominantly in the folds and has a similar picture to that seen in this case. It would be impossible without a biopsy to make sure of that diagnosis. However, the scraping under the microscope showed numerous yeast cells. They are not necessarily pathogenic, but they are present in large numbers and that is suggestive. The scrapings did not show fungi of any other kind.

Granuloma Inguinale. Presented by DR. JAMES R. WEBSTER and DR. R. H. SCULL (by invitation).

W. S., a white man aged 54, has had an eruption for about ten years. It was first noticed on the right buttock and gradually spread until a year ago, when it involved both buttocks, the intergluteal region, the perineum, the root of the scrotum and the inguinal regions, especially on the right side. Active areas were and are somewhat painful but not enough to be incapacitating. He had had several roentgen ray treatments in the past from other physicians "without apparent benefit." At no time has there been any interference with bowel function.

Active areas are red and edematous and are thrown into bandlike hypertrophic scars with discharging sinuses. Inactive areas exhibit scarring which in general is atrophic but in places contains nodular hypertrophic areas. There is no outstanding lymphadenopathy in the region.

The Wassermann reaction was negative before and one week after an injection of 0.3 Gm. of neoarsphenamine. The result of a Frei test was negative. A Mantoux test with a 1:100,000 dilution of old tuberculin gave negative results. A smear of the discharge revealed many leukocytes, many bacteria and a few structures suggestive of Donovan bodies.

Histologic examination revealed granulomatous tissue in the corium with large blood spaces in a very cellular stroma. Donovan bodies were present in moderate numbers.

Since July 18, 1940 the patient has received nineteen intramuscular injections of fuadin. There has been slow but definite improvement during this period.

DISCUSSION

DR. EDWARD A. OLIVER: I suggest a diagnosis of hydradenitis suppurativa. I encountered a case similar to this last week. Lesions were present both in the axillas and in the anal region.

DR. JAMES R. WEBSTER: My first impression was certainly not granuloma inguinale. However, Dr. Scull, who has more cases of this kind than I have, pointed out that the appearance of scarring on the buttocks, with atrophy and interspersed hypertrophic nodules, is characteristic of granuloma inguinale when it lasts a long time. I wish to point out that this man has had trouble for ten years, and the picture would very possibly not be the picture of shiny granulomatous lesions of the skin that have been described as characteristic after ten years.

In reference to the Frei test, not mouse brain antigen was used but pus antigen, and the test was repeated twice. The same test with the same antigens gave positive reactions in known cases of lymphogranuloma. I felt that syphilis was ruled out on clinical, histologic and historical evidence.

Finally, one point which I think is of some value in connection with the diagnosis is that since July the patient has had considerably more than 50 per cent improvement, as far as the active process is concerned, during which time he has been receiving injections of fuadin. I think that might be considered as representing a fairly conclusive therapeutic test.

Generalized Telangiectasis. Presented by DR. M. E. OBERMAYER and DR. S. W. BECKER.

Mrs. M. F., aged 39, first noted swelling of the ankles and ulcer on the left foot during her third pregnancy, eight years ago. After parturition she noted that her feet were becoming red. The area involved in the color change has gradually enlarged to include both legs, thighs, buttocks, abdomen and arms. There is slight tingling in the fingers and toes. The left ovary and tube were removed twenty years ago. Menses are more than twenty-eight days apart, and the menstrual flow is scanty.

General physical examination gave essentially negative results. Examination in the renal-vascular disease clinic revealed no abnormality of the internal vessels. The blood pressure was 112 systolic and 72 diastolic. Examination of the blood showed 90 per cent hemoglobin, 4,770,000 erythrocytes and 10,000 leukocytes. The urine was normal. The basal metabolic rate was —11 per cent.

On the aforementioned areas of the skin were closely set telangiectatic vessels, which were larger on the lower extremity than elsewhere. The redness disappeared completely on pressure. The extensor surfaces were involved more than the flexors. Microscopic examination revealed dilatation of superficial vessels with a minimal perivascular infiltrate. The section did not show the deeper vessels at the dermosubdermal junction.

Treatment has been carried out with thorium x.

DISCUSSION

DR. JAMES H. MITCHELL: I was interested in this case because I have observed several cases of generalized telangiectasis during pregnancy; the conditions have cleared after delivery. In one patient the condition was present in three different pregnancies and cleared after delivery. In the patient today the foot has not cleared.

DR. S. W. BECKER: We presented this patient because the condition was such a splendid example of generalized telangiectasia. As yet we have found no cause for the condition. The treatment with thorium x is apparently successful.

A Case for Diagnosis (Sensitization Dermatitis? Lupus Erythematosus?). Presented by DR. RALPH B. COOMBER (by invitation).

Miss E. M. M., a white woman aged 44, a school teacher, a patient of Dr. Clark W. Finnerud, seven years ago noticed an area of brownish pigmentation on the side of the neck, which disappeared after drainage of the gallbladder. There was no itching. In June 1939, there was itching followed by a reddish discoloration which began at the margin of the scalp on the back of the neck and on the forehead and temples and gradually spread over the face and sides of the neck. At times this pigmentation became fainter but never entirely disappeared. In the summer of 1940, while her face was protected the back of her neck was exposed to the sunlight, and an itching brownish pigmentation followed. Her face and neck now itch considerably most of the time, especially when the skin is dry. She rarely takes a laxative and seldom takes medicine of any kind. In the past she has used a minimum of cosmetics and in the last eighteen months none.

The past history shows nothing of significance except a tonsillectomy in 1933 and symptoms of gallbladder trouble, which were relieved by drainage of the gallbladder in 1933.

Examination reveals a diffuse and somewhat reticulated violaceous erythema of the forehead and cheeks, except in the perioral region, which is apparently free

of abnormal color. The sides and back of the neck exhibit a diffuse grayish brown pigmentation extending upward to include the area posterior to the ears. There apparently is little infiltration of the skin. Pigmentation does not extend below the normally exposed areas of the neck. The buccal mucous membranes apparently are normal.

A few small doses of roentgen rays apparently did not produce any improvement in the itching or any appreciable change in the discoloration. The patient has had injections of sodium thiosulfate and gold sodium thiosulfate, without improvement.

Spectrographic examination of face cream and facial liquid used by the patient revealed neither bismuth nor mercury. The liquid contained chiefly sodium borate and calcium, and the cream, magnesium and a small amount of alum.

Histologic sections showed chiefly mild hyperkeratosis, slight atrophy of the rete mucosum in places and mild lymphocytic infiltration of the corium, which was largely perivascular. The elastic tissue was normal. There were occasional chromatophores in the upper portion of the corium but little evidence of increase in melanin in the basal layer.

DISCUSSION

DR. JAMES H. MITCHELL: I was interested in the pigmentation, but I did not see anything that would help me in making a diagnosis of lupus erythematosus. The patient has not been tested for light sensitization. She has not been in the sun in a bathing suit because she does not like swimming. I think it would be advisable to test her in other ways to see if other pigmentations would develop if she is not sensitive to sunlight.

DR. S. W. BECKER: I believe the condition is a postinflammatory melanosis, whether based on photosensitization or not. The history and the clinical observations do not support the diagnosis of lupus erythematosus. I suggest that the various creams which she had been using before the melanosis appeared be applied and then ultraviolet radiation, to see if the creams are photosensitizing.

DR. EARL D. OSBORNE (by invitation), Buffalo: I agree that the disease is a postinflammatory melanosis.

DR. THEODORE CORNBLEET: I asked the patient about the use of creams, but she states that she has not used any.

DR. MAURICE OPPENHEIM (by invitation): During the World War Riehl published several cases of melanosis (Riehl's melanosis) which was supposed to be on a nutritional basis (soy beans). I asked this woman if she had eaten soy beans, and she said yes. I do not know whether the quantity was sufficient to cause this condition. In soy beans there is a substance which is photosensitive, as in buckwheat.

I agree with Dr. Becker that the condition in this case is a photosensitization together with melanosis. It may be that the soy beans are in the background of this disease.

DR. H. RATTNER: Do I understand you to say that clinically this condition resembles Riehl's melanosis?

DR. MAURICE OPPENHEIM (by invitation): Yes.

DR. S. W. BECKER: Is Riehl's melanosis as sharply limited?

DR. MAURICE OPPENHEIM (by invitation): Yes. My personal opinion is that Riehl's syndrome has an external excitant, such as a lubricant, tar or engine oil.

DR. THEODORE CORNBLEET: Patients with soy bean photosensitization may have large quantities of porphyrin in the urine.

DR. M. E. OBERMAYER: The fact that the scalp was not involved is likewise not in favor of the diagnosis of lupus erythematosus. Patients with the diffuse hyperpigmented type of lupus erythematosus usually show diffuse involvement of the scalp associated with thinning of the hair or with complete alopecia, a symptom which is entirely absent in this patient. I agree with the suggestion that the dermatitis is probably due to hypersensitivity to light.

DR. S. ROTHMAN (by invitation): There seems to be a clinical entity of progressive melanosis on the cheeks of women only. In 2 cases I observed, one of which has been illustrated in the International Atlas (Nékám, L.: Corpus Iconum Morborum Cutaneorum, Leipzig, Johann Ambrosius Barth, 1938, vol. 5, no. 3144), neither internal nor external photosensitizing agents could be found. Possibly this disease is related to Riehl's melanosis.

DR. FRANCIS E. SENEAR: Regarding soy bean sensitization, I should like to state that I have been told that soy bean oil is used freely in some of the inexpensive peanut butters on the market.

CLEVELAND DERMATOLOGICAL SOCIETY

H. N. COLE, M.D., *President*

C. G. LAROCCO, M.D., *Secretary*

JAMES R. DRIVER, M.D., *Reporter*

Nov. 28, 1940

A Case for Diagnosis (Chronic Balanoposthitis?). Presented by DR. GEORGE M. STROUD III.

R. M., a Negro aged 48, presented from the department of dermatology and syphilology, the University Hospitals, came to the outpatient department on Oct. 19, 1940 complaining of a urethral discharge. In the urologic department a diagnosis of chronic gonococcic urethritis was made, but the patient was sent to the dermatologic department because of a penile lesion of ten months' duration. His former hospital record showed that a diagnosis of latent syphilis had been made in 1921. The Wassermann reaction of the blood was positive at that time. He received ten inunctions of mercury and six injections of neoarsphenamine, following which he voluntarily stopped treatment. His present urethral discharge began about a year and a half ago. Ten months ago hard whitish lesions developed on his penis, and these lesions have become progressively larger.

There are indurated whitish plaques of irregular size on the glans penis and on the inner surface of the prepuce and linear adhesions in the coronal sulcus. There are a few discrete firm moderately enlarged inguinal lymph nodes.

The hemogram was within normal limits except for a white blood cell count of 3,000. Serologic tests for syphilis showed strongly positive reactions. Examination of the spinal fluid gave negative results. Urethral smears showed gram-negative intracellular diplococci.

Histologic examination of tissue from the prepuce showed a thin ulcerated epithelium. The cutis was fairly diffusely infiltrated with lymphocytes, plasma cells and small mononuclear cells.

DISCUSSION

DR. H. N. COLE: Careful examination of the glans shows on one side some areas which are depressed, whitish and rather infiltrated. It seems to me that the condition has gone past the stage of balanitis and is now xerosis balanitica. It is not just an inflammatory process at this time.

DR. C. G. LAROCCO: Some conditions of this type continue in this mild inflammatory stage for a number of years. I saw a man with a similar condition sixteen or more years ago. I believe at that time Dr. Cole saw him in consultation, and we were concerned with possible future malignancy. Reexamination recently showed this same inflammatory process without any evidence on which one could base a clinical diagnosis of beginning malignancy.

Spontaneous Keloids. Presented by Dr. Otto E. L. Schmidt.

H. B., a slightly obese Negro aged 58, presented from the department of dermatology and syphilology, the University Hospitals, complains that for thirty years lesions, which are at times painful, have appeared on the anterior portion of the trunk. There is no history of trauma. He states that several members of his family have had similar lesions. At times the lesions "fill up" and he is able to express a yellowish liquid from them. He thinks he had some injections in the arm many years ago for "bad blood."

Extending from the suprasternal notch to the umbilicus there are eight symmetrically and horizontally arranged slightly tender firm fibrous linear or bandlike keloids. At the margins of some of these there are groups of enlarged sebaceous openings.

The rest of the physical examination showed a normal condition, except for a cataract in the left eye.

Serologic tests for syphilis gave negative results.

DISCUSSION

Dr. George Binkley: It is interesting to note that the lesions were evenly arranged and obviously of spontaneous origin. There was no infectious process and no injury. He did show on one elbow scars of previous trauma where there had been no keloidal response. I asked about cuts, and he said he had had them without subsequent keloids.

Dr. John Rauschkolb: I do not believe the lesions were spontaneous. I cannot conceive of their arising without injury, no matter how slight, such as an insect bite or a bruise. There must be an injury as a primary factor.

Phrynoderma. Presented by Dr. George M. Stroud III.

J. L., a school boy aged 13, presented from the department of dermatology and syphilology, the University Hospitals, came to the outpatient department on Oct. 24, 1940, with a papular eruption involving the hair follicles, most pronounced on the upper portion of the back, the elbows and the knees. He was slightly undernourished but well developed.

His hemogram was within normal limits. Serologic tests for syphilis gave negative results. The cholesterol content of the blood was 145 mg. per hundred cubic centimeters.

Histologic examination of a lesion showed hyperkeratosis of a moderate degree. One hair follicle was dilated and filled with keratin. In the papillary layer of the corium there was an infiltrate composed of lymphocytes, large round cells and an occasional polymorphonuclear cell.

Biophotometric examination showed poor dark adaptation before treatment was begun.

He was given tablets containing 6 mg. of carotene three times a day for three weeks. After this therapy many of the follicular papules disappeared and the biophotometric curve became normal.

DISCUSSION

Dr. J. E. Fisher: I should like to ask the presenter whether he considers keratosis pilaris always due to vitamin A deficiency.

Dr. George M. Stroud III: I cannot answer that, but from the recent literature I get the impression that this condition is not due to vitamin A deficiency in all cases. The biophotometric reading for this boy was one of the lowest that I have seen, but it returned promptly to normal after the administration of carotene.

Dr. H. N. Cole: I think it is important in certain of these cases in which vitamin A deficiency is suspected to make biophotometric readings.

Blepharochalasis Secondary to Rosacea. Tertiary Syphilis (Aortic Insufficiency). Parkinson's Disease. Presented by DR. OTTO E. L. SCHMIDT.

H. McF., an obese man aged 62 presented from the department of dermatology and syphilology, the University Hospitals, complained of having an eruption on the forehead and cheeks for ten years and "puffy eyelids" for six years. He has a masklike facies and responds slowly, with lack of associated movements. His speech is slow and monotonous.

On the central portion of the face there is a diffuse erythema with some induration, papules and telangiectasia. On both upper eyelids there is a well circumscribed puffy edematous swelling.

His heart is enlarged, and there is an aortic diastolic murmur. Hoffmann's sign can be elicited bilaterally. There is slight facial weakness on the right side.

In May 1940 he was given vitamin B complex orally without improvement. At present he is receiving antisyphilitic therapy.

Serologic tests for syphilis gave strongly positive reactions. The urea nitrogen content of the blood was 38.3 mg., while the creatinine content of the blood was 1.4 mg. per hundred cubic centimeters. The spinal fluid was normal.

A roentgenogram of the skull was normal. Fluoroscopic examination of the heart showed it to be enlarged with bounding pulsations.

Search for Demodex was unavailing.

DISCUSSION

DR. OTTO E. L. SCHMIDT: I should like to make this additional comment. The staff neurologist, who studied this patient, pointed out the fact that many patients with Parkinson's disease have seborrhea and rosacea.

A Case for Diagnosis (Discrete Keratosis of the Dorsa of the Hands [Michael]? Tuberculosis Verrucosa Cutis?). Presented by DR. HAL FREEMAN.

H. M., a man aged 36, presented from the department of dermatology and syphilology, Cleveland City Hospital, complained of a lesion on the left side of the chin which has been present for five years and one on the right side of six months' duration. Lesions on the dorsa of the hands have been present for one year.

In the past he has been treated for secondary anemia, and the family history revealed that a sister had tuberculosis and that the father had died of "cancer."

There are two erythematosquamous raised lesions on each side of the chin and deeply infiltrated plaques on the dorsum of each hand. On the right hand the lesion is roughly rectangular and irregular in outline and measures 1.5 by 2.5 cm. On the left hand the lesion is more circular and is bordered by a raised yellowish brown rim. The center is somewhat atrophic. A previous lesion on the left cheek had healed after roentgenotherapy, but there are several pinhead-sized raised yellowish plaques remaining.

Serologic tests for syphilis gave negative results. The hemogram showed a mild degree of secondary anemia.

Histologic examination of a lesion on the dorsum of the right hand revealed an extreme degree of hyperkeratosis. The stratum lucidum and the stratum granulosum were pronounced in appearance. A moderate degree of acanthosis was evident, and the basal layer was everywhere intact. In the corium there were small focal accumulations of epithelioid cells, small round cells and occasional plasma cells, some of which were perivascular. No giant cells were seen.

DISCUSSION

DR. H. P. PARKHURST, Toledo, Ohio: The lesions were of bizarre appearance and did not fit with any particular clinical entity. On questioning the patient I found that for years he had been in the habit of digging for ingrowing hairs

and plucking them out and digging and scratching at patches on his hands. As a matter of fact, two lesions were ulcerated today. I should like to suggest the diagnosis of dermatitis factitia.

DR. HUGO HECHT (by invitation): The lesions on the face resemble sarcoid of Boeck. They are chronic and show some atrophy, and other lesions are more like tuberculids. The histologic picture did not look like that of tuberculosis; it looked more like that of a sarcoid.

DR. E. W. NETHERTON: I thought the histologic picture looked much like that reported by Michael (Michael, J. C.: Discrete Keratoderma of the Dorsum of the Hands, ARCH. DERMAT. & SYPH. **21**:215-228 [Feb.] 1930). I did not think the lesions he described were as inflammatory as in this case. This case is the first one of this disease—if it is that condition—that I have ever observed.

DR. C. G. LAROCCO: I rather favor the opinion expressed by Dr. Parkhurst.

DR. H. N. COLE: Dr. Driver and I saw this patient several years ago when he had the first lesion on his chin. He gave a history at that time of using tweezers to remove hairs. It was our impression that the condition was dermatitis factitia, but I admire what Dr. Freeman has done to establish the diagnosis of an unusual entity, and I should like to hear what he has to say. I think the picture is suggestive of the condition Michael reported.

DR. HAL FREEMAN: The diagnostic problem in this case was difficult. I had all this history concerning the removal of hairs, but the more I thought of it, the more I was inclined to discount it. I am sorry you were unable to see a lesion on the dorsum of the right hand which has been destroyed by cautery because it was hyperkeratotic. The dense infiltrate was, I should say, almost ¼ inch (0.6 cm.) thick. I cannot imagine dermatitis factitia being so deep, but it may be possible. Searching the literature I found the entity described by Michael with a typical histologic picture. I have presented the case as a possible instance of that disease. I am inclined to regard the lesions on the face as tuberculids.

DR. H. P. PARKHURST, Toledo, Ohio: As I recall the condition described by Michael, it consisted of chronic circumscribed pruritic patches on the hands which were resistant to treatment. The patches in this case have never been pruritic, according to the patient.

DR. HAL FREEMAN: This condition was described especially as asymptomatic discrete hyperkeratotic patches on the dorsa of the hands. The lesions were resistant to any type of therapy except excision or destruction.

DR. H. N. COLE: The use of occlusive dressings for perhaps a month should prove whether or not the lesions are self inflicted.

Granuloma Inguinale and Secondary Syphilis. Presented by DR. E. B. HEISEL and DR. HAL E. FREEMAN.

W. C., a Negro aged 36, presented from the department of dermatology and syphilology, Cleveland City Hospital, complains of a painful, tender "sore" on the scrotum and in the inguinocrural areas, which has been present since July 1940. It began as small "pimples" and has become progressively larger. In June 1940 he had a nonpainful small hard lesion on the glans penis, but this disappeared before the onset of the present illness.

On the sides of the scrotum, on the inner aspect of the thighs and in both inguinal regions there is a symmetric sharply delimited beefy red eruption. The lesions on each side are 12 to 14 cm. in diameter and raised above the surface of the normal skin 0.5 cm. The border in places is serpiginous. At the borders of the lesions there are several discrete round flat-topped nodules, varying from 0.5 to 2 cm. in diameter. In both inguinal regions there are several piled-up round fused tumor masses. The entire process is covered with a foul grayish moist exudate. There is a small scar on the right side of the glans penis. The inguinal lymph nodes are small, discrete and nontender.

A dark field examination revealed Spirochaeta pallida. Giemsa-stained tissue smears showed the presence of Donovan bodies. The reactions to Frei and Ito-Reenstierna intracutaneous tests were mildly positive. The Kline test of the blood gave a negative result, but later there was a positive Kline reaction and a mildly positive Wassermann reaction. Examination of the cerebrospinal fluid gave normal results. The hemogram and the urine were normal.

Histologic examination showed a decided degree of acanthosis in the epidermis of the involved area underlying an acute inflammatory process. The cutis and the underlying striated muscle showed a dense infiltrate, largely composed in its upper subepidermal portion of polymorphonuclear neutrophils and eosinophils and in the deeper portion almost solely of large plasma cells. Other areas showed perivascular and periglandular infiltrates also composed of plasma cells, together with a few epithelioid cells.

Therapy has consisted of five injections of mapharsen, 0.27 Gm., two injections of iodobismitol with saligenin, 4 cc., and five injections of fuadin, 19 cc. Definite improvement has resulted since this therapy was begun.

DISCUSSION

DR. GEORGE BINKLEY: I noted that the reactions to serologic tests were incompletely positive, and for that reason I doubt the interpretation that the organisms found were S. pallida, and am inclined to assume that they were some other form of spirochete. I am unable to accept a diagnosis of active secondary syphilis in a patient with the titer so low.

DR. H. N. COLE: I should like to ask Dr. Freeman how much improvement has resulted since therapy was instituted.

DR. HAL E. FREEMAN: The moist character of the lesion has disappeared, and a decided regression of the lesion in general has resulted. I know that Dr. Binkley's opinion is the logical conclusion to draw, but I saw those spirochetes, and I am willing to say that they were S. pallida. My associates and I have seen 2 patients who had mucous patches, active lesions of secondary syphilis and negative serologic reactions. Stokes reported a series of 7 such patients. One has to make the diagnosis by dark field examination in such instances.

DR. H. N. COLE: I am inclined to agree with Dr. Freeman. Patients with this condition are seen, although not often. I think that in something like 1 per cent of the cases of secondary syphilis there are negative reactions to serologic tests.

Boeck's Sarcoid. Presented by DR. GEORGE M. STROUD III.

C. B., a woman aged 49, presented from the medical service of Prof. J. T. Wearn, the University Hospitals, entered the hospital on Nov. 8, 1940, complaining of burning of the eyes. She had felt well until three weeks before, when she awoke with itching and burning of the left eye. Within a day the vision became blurred. Four days later her right eye became similarly involved. One week before entering the hospital she had a sore tongue and numbness and tingling in her feet. A slightly productive cough, which she has had for the past year, has become worse during the past six months.

On examination she was afebrile and her blood pressure was 146 systolic and 94 diastolic. She did not appear acutely ill. The lacrimal glands were enlarged. There were conjunctival injection and some fibrin strands in the upper half of the anterior chamber of the right eye. The pupil was partially occluded by deposits of fibrin. Synechiae were present. The pupillary reaction to light and in accommodation was sluggish. No retinal abnormalities were seen. In the left eye the anterior chamber was clear; the pupil was sluggish with many synechiae, and the fundus was not seen. The parotid glands were slightly enlarged. The tongue was beefy red and smooth. A number of teeth were carious. The tonsils were enlarged and injected, and the pharynx also was injected. Fine rales were present at the bases of both lungs. The liver extended 3 cm. below the right costal margin, while the spleen extended 5 cm. below the left costal margin. There was

no palpable peripheral lymph node enlargement except for a small anterior cervical node on the right and an inguinal node also on the right. There were hypesthesia, diminution of the vibratory sense, weakness and hyporeflexia of the distal portion of the legs.

The urine consistently showed many pus cells and 2 to 20 red blood cells per high power microscopic field. Stains of twenty-four hour sediment failed to show any acid-fast bacilli; so some of this material was injected into a guinea pig. Hemograms repeatedly were normal. The fasting blood sugar was 83 mg. per hundred cubic centimeters. The dextrose tolerance curve was of the diabetic type. The plasma protein content was 6.58 Gm. per hundred cubic centimeters, with an albumin-globulin ratio of 1.08. The calcium content was 9.8 mg., the phosphorus 4.6 mg. and the phosphatase 12.7 units per hundred cubic centimeters. The sputum repeatedly failed to reveal acid-fast bacilli. A cutaneous test with 0.005 mg. of purified protein derivative gave a 2 plus reaction after forty-eight hours. The corrected sedimentation rate on November 16 was 0.35 mm. per minute, and on November 21, 0.5 mm. per minute.

Roentgenograms of the chest on several occasions showed numerous soft fluffy ill defined shadows of increased density, measuring 2 to 4 mm. in diameter, scattered throughout both lung fields. The hilar lymph nodes were slightly enlarged. Roentgenograms of the hands and feet showed no abnormalities. Blood cultures have not been reported.

The patient had a slight fever during her stay in the hospital. She was given brewer's yeast and nicotinic acid, along with a high vitamin diet. Atropine was instilled into and boric acid compresses placed over the eyes. She had profuse night sweats and brought up small quantities of mucopurulent sputum. On November 22 she was given 10,000,000 killed typhoid bacilli intravenously. However, there had been improvement in both eyes several days before this. The condition of her tongue and the symptoms and signs of peripheral neuritis also improved. The hospital ophthalmologist on November 26 recommended extraction of carious teeth and a tonsillectomy.

Systemic Sarcoidosis with Nodule on the Right Iris. Presented by DR. E. L. SCHMIDT.

S. W., a Negro aged 16, presented from the medical service of Prof. J. T. Wearn, the University Hospitals, entered the hospital in October 1940 complaining of blurred vision for two months. The family history and the past history were noncontributory.

The physical examination revealed bilateral posterior synechiae and a dark reddish brown irregular nodule, 3 mm. in diameter, inferiorly on the right iris. There were transient bilateral rales in the lung bases and a generalized firm nontender lymphadenopathy. The temperature has varied from 37 to 38 C. (98.6 to 100.4 F.).

Hemograms showed 5 to 30 per cent monocytes and 5 to 25 per cent eosinophils. Urinalysis and the examination of the sputum and of stomach washings gave normal results. The Kline test gave a negative result. The sedimentation rate varied from 0.1 to 1 mm. per second. Injection of tuberculin (old tuberculin), in dilutions of 1 to 100,000 to 1 to 10, elicited negative reactions.

A roentgenogram of the chest showed bilateral fine nodular mottling with lobulated, enlarged hilar nodes. Roentgenograms of the extremities were normal.

Histologic examination of an inguinal node revealed an intact capsule containing tubercle-like nodules composed of endothelial cells, occasional small foci of necrosis, exudation of lymphocytes, plasma and small mononuclear cells. Considerable numbers of various types of giant cells were present. No acid-fast bacilli were demonstrable.

DISCUSSION

DR. H. N. COLE: These 2 cases of sarcoid are very interesting and of a type which has not been presented before this society up to this time; as far as

I know, I do not remember any cases of this kind being presented before any dermatologic society in the country.

DR. J. R. DRIVER: The fact that patients with this disease do not show cutaneous manifestations or osseous changes makes me wonder if the condition belongs in a different classification entirely.

DR. I. L. SCHONBERG: I have read several reviews of so-called Boeck's disease in several journals of internal medicine. This condition has been discussed at great length, and in many of the cases there was no mention of the dermatologic phase. Discussion of the disease rested on the etiology, whether it is tuberculous or not.

DR. H. N. COLE: A number of these cases have been reported by the Scandinavians, and I believe it is not necessary to have cutaneous lesions in connection with the process, the diagnosis being made from the pulmonary condition and sometimes from the osseous condition, and it is that same syndrome that has been described by Schaumann. I was interested in the fact that there was an anergy to tuberculin in one patient but the other was sensitive to tuberculin.

DR. GEORGE M. STROUD III: It is the opinion of some of the internists of the hospital that the woman has tuberculosis, despite the fact that they have been unable to demonstrate the tubercle bacillus.

DR. E. W. NETHERTON: Occasionally roentgenologists report a diagnosis of sarcoid from examination of roentgenograms, as Dr. Cole has mentioned. I have had that experience in cases in which the patient did not have cutaneous lesions but the radiologists were sure their observations indicated the presence of sarcoid in the chest. Most of the patients who have had cutaneous lesions showed pulmonary changes at the time they came under my observation. In most instances, in my opinion, the pulmonary changes probably exist before the cutaneous lesions and the patient does not consult a physician until development of the latter.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY

EDWARD A. OLIVER, M.D., *Chairman*

EARL D. OSBORNE, M.D., *Secretary*

Clinical Meeting, Chicago, Dec. 9, 1940

Discussion of Rare Dermatoses

A Case for Diagnosis (Nonpigmented Acanthosis Nigricans?). Presented by DR. N. C. BARWASSER, Moline, Ill.

E. Y., an unmarried white man aged 23, born of Slavic parents, is by occupation a miner. There is nothing of significance in his past medical history. He graduated from high school at the age of 19.

The family history reveals that the mother and father are first cousins.

The patient had warty lesions about the eyes and lips at birth. At the age of 3 years the lower lip became so pendulous that an operation was performed. Hoarseness has been present since early childhood. At the age of 11 years, two years after a tonsillectomy, changes were first noticed in the mouth. At the age of 12 years warty lesions appeared on the backs of the hands. Since then the legs, the arms, the feet, the lumbar vertebral region and the gluteal folds have become involved. Bullae are said to have occurred throughout this progression, although not definitely related to trauma. Dry flesh-colored verrucous papular

lesions involve the eyelids, lips, trunk and extremities. The mucous membranes of the mouth and the tongue are thickened, whitish and coarsely verrucous. The nails of the fingers and toes show no changes.

The result of a Kahn test was negative. The red blood cell count was 4,600,000, with 90 per cent hemoglobin, and the white cell count was 6,800. The differential count showed no abnormalities.

Histologic examination of skin from the back of the hand showed that the epithelial surface was thrown into sharp-pointed folds. There were hyperkeratosis, thickening of the stratum granulosum, acanthosis and some intercellular edema. There was a scattered round cell infiltration throughout the upper portion of the corium. The blood vessels showed some dilatation.

There was no evidence of thoracic or gastrointestinal malignancy. Both the right and the left ventricle of the heart were enlarged, and there was a systolic murmur at the apex and in the aortic region.

DISCUSSION

DR. L. A. BRUNSTING, Rochester, Minn.: I would classify this remarkable case as one of extensive ichthyosiform nevus. On the skin of the extremities there are linear characteristics of ichthyosis hystrix, but in addition the mucous membranes of the mouth and nose and also of the anus are white and diffusely thickened and resemble plush. Cannon (Cannon, A. B.: White Sponge Nevus of the Mucosa [Naevus Spongiosus Albus Mucosae], ARCH. DERMAT. & SYPH. **31**:365-370 [March] 1935) reported a similar lifelong condition in a familial group of 7 persons, but the mucous membranes alone were involved. However, in the literature he found records of a few rare instances of ichthyosiform nevus, including one of generalized ichthyosis reported by Thibierge, in which the mucous membranes of the mouth and nose and the cornea were affected. Furthermore, the histologic sections presented are consistent with this diagnosis.

DR. H. N. COLE, Cleveland: This patient had an eruption with little involvement in the axillas and little around the breasts. The process was symmetric and on the order of a dyskeratosis. There were lesions around the nails and extensive involvement of the palms and soles. It seemed to me that the type of involvement of the skin, together with the lesions around the eyes and mouth, would go very well with epidermodysplasia verruciformis of Lewandowski and Lutz.

DR. RUBEN NOMLAND, Iowa City: I had an opportunity to examine this case at my leisure several months ago. I think every one will admit that the condition is an ectodermal dysplasia or probably a process closely related to the so-called ectodermal defects. I believe under the term pachyonychia congenita a disorder similar to that of this patient has been described. The main lesions on the palms, soles, elbows, mouth and tongue are entirely compatible with the description of that disease. There is one feature absent in this case that is usually present, and that is the involvement of the nails.

The lack of pigmentation, the absence of involvement of the axillas, groins and other parts and the pathologic picture rule out the diagnosis of acanthosis nigricans.

A Case for Diagnosis (Sensitization Dermatitis? Lupus Erythematosus?).

Presented by DR. CLARK W. FINNERUD and DR. RALPH B. COOMBER, Chicago.

Miss E. M. M., a white woman aged 44, was presented before the Chicago Dermatological Society on Nov. 20, 1940 (page 1077).

DISCUSSION

DR. RICHARD S. WEISS, St. Louis: It would be presumptuous to attempt to give a definite diagnosis in a case of this character. The eruption is neither startling nor profuse, but nevertheless it presents a problem in diagnosis that will require all one's resources to solve.

I considered all of the pigmentary diseases that I could think of, including fixed eruption due to phenolphthalein melanosis, and melanosis due to tar or Addison's disease, and none of them was suitable. Pigmentary changes were described some years ago by Goeckerman under the title of metallic pigmentations. In this case I could get no history of the use of anything that might contain metal. Nevertheless, she may have used some cosmetic which she is concealing or has forgotten. I believe metallic pigmentation has to be considered. This eruption is limited to the face and neck, and there is a sharp line of demarcation where the application of creams stops. I think that in order to complete the record, to arrive at a diagnosis and to rule out an eruption due to deposit of a metal, it will be necessary to excise a piece of her skin and examine it spectroscopically.

DR. PAUL GROSS, New York: I agree with the remarks of Dr. Weiss but favor the diagnosis of melanodermatitis of Hoffman. The patient does not have a simple pigmentation but a combination of a low grade dermatitis of a lichenoid appearance with hyperpigmentation. The melanodermatitis, as well as the melanosis of Riehl, is not due to heavy metals. If the cause of these conditions is external they are due to impurities of paraffin (acridine bases). The identical picture may be produced by an internal—probably nutritional—disturbance, and dysfunction of the liver seems to be an important factor. Whatever the mechanism, photosensitization is a deciding factor, as it seems also in the patient presented today. The case should be studied with this in mind as well as the possibility of metallic contact, as suggested by Dr. Weiss.

Keratosis Follicularis (Darier's Disease). Presented by DR. E. A. OLIVER, Chicago.

The patient, a Negro aged 44, an inmate of the Veterans Administration Facility, Hines, Ill., states that the condition was first noticed on the inner aspects of his thighs in 1917. It has progressed steadily since that time and now consists of follicular keratotic papules of various sizes involving the face, chest, back, abdomen and legs. The eruption is most pronounced in the midline of the body but is also present on the chest and lower part of the back. In the anogenital region there is a heaped-up verrucous mass which has been treated at some time with roentgen rays, with a resulting roentgen ray dermatitis. On the legs is a similar verrucous eruption with overgrowth of the epithelium and much crusting and scaling. There is some leukoplakia of the buccal mucosa. Studies of the blood and urine showed nothing abnormal. The specimen of tissue taken for microscopic examination showed the histologic picture of keratosis follicularis.

Keratosis Follicularis (Darier's Disease). Presented by DR. N. C. BARWASSER, Moline, Ill.

W. L., a white man aged 37, married, first suffered from an eruption on the hands and neck at the age of 5 years. When he was 21 the eruption had become generalized. Several times during this progression he has had acute pustular flare-ups on the face and the scalp. He has had pneumonia twice within the past twelve years, and during these attacks the eruption has shown improvement. A corneal opacity of the right eye developed ten years ago after an injury.

The family history reveals a strain of mental instability selecting the male members. The mother and three sisters are living and well.

The eruption consists of brownish follicular keratotic papules of various dimensions and of almost universal distribution, with more confluency toward the midportions of the body. There is a background of dusky erythema particularly noticeable on the face. The legs are encased in a mass of heaped-up dry tightly adherent corneous crusts. The palms and soles show well defined areas of keratosis. The mucous membrane of the hard palate shows a diffuse whitish verrucous change.

Laboratory examinations showed nothing of significance except a leukocyte count of 8,300 with 8 per cent eosinophils. The histologic picture was that of keratosis follicularis.

Treatment has consisted of intravenous injections of a gold compound and irradiation with roentgen rays and grenz rays.

DISCUSSION OF CASES OF KERATOSIS FOLLICULARIS

DR. M. T. VAN STUDDIFORD, New Orleans: I studied the case of the Negro about twelve years ago. I always thought that it was not much of a compliment to the medical profession that he was allowed to enter the army with such a condition.

The conditions in these 2 cases correspond with Darier's and Macleod's descriptions. I think one can decide whether vitamin A is advantageous for keratosis follicularis by trying it in the 2 cases to the full extent.

A Case for Diagnosis. Presented by DR. E. A. OLIVER, Chicago.

A white boy 14 months of age began to have an eruption at the age of 8 months. The mother states that the eruption first appeared as small vesicles on the tibial aspects of both legs and was thought to be lesions of impetigo contagiosa. I first examined the child on Nov. 22, 1940. The eruption at that time was papular, reddish blue and confined to the dorsal aspects of the wrists and the anterior and posterior aspects of the legs. The lesions are irregular in shape and of various sizes, for the most part varying in size from that of a split pea to twice as large. On the calf of each leg is a large papule, the size of a dime, with a puckered, drawn-in center. As the lesions disappear they leave a distinct area of atrophy. The child is in good health, and there are no subjective symptoms.

DISCUSSION

DR. H. E. MICHELSON, Minneapolis: I have no diagnosis to offer. The child is not very sick, and the mother stated that he is getting better daily, which should rule out any serious disease. I knew of no type of tuberculosis or syphilis that the condition could be. The only possibility that I can think of is a peculiar form of papular dermatitis of Jacquet.

Congenital Ichthyosiform Erythroderma. Presented by DR. F. E. SENEAR and DR. HAROLD SHELLOW, Chicago.

T. C., a youth aged 19, was presented before the Chicago Dermatological Society on April 19, 1939 (ARCH. DERMAT. & SYPH. **40**:835 [Nov.] 1939).

DISCUSSION

DR. H. N. COLE, Cleveland: I agree with the diagnosis of congenital ichthyosiform erythroderma. It is a generalized process with extensive diffuse lesions on the extensor and flexor surfaces. There was thickening of the nails, and the hair was dry. The disease in this case is not the type with bullous formation. Brocq divided the disease into two types: with and without bullae. The disease is familial.

Extensive Ulcerated Syphilid. Presented by DR. HERBERT RATTNER and DR. MAURICE DORNE, Chicago.

F. R., aged 44, was presented before the Chicago Dermatological Society on Oct. 16, 1940 (page 1059).

DISCUSSION

DR. CHARLES C. DENNIE, Kansas City, Mo.: Such cases as this were not unusual in the prearsphenamine days, when the only treatment for syphilis available was mercury and potassium iodide. Occasionally one would see an extensive syphilitic ulceration, usually on the back or on the thighs. The preliminary treatment in cases of this kind was not antisyphilitic. A complete physical examination showed that in a considerable number of cases there were a nephrosis, a rather severe anemia and a high blood sugar content. Consequently antisyphilitic treatment was contraindicated until the state of nutrition was built up by injections of iron and liver, small doses of insulin (not more than 5 units a day) and vitamin B complex.

It must be remembered that the patients with this condition have had no previous treatment and come to the physician with gigantic lesions which are then discovered to be of syphilitic origin. The specific treatment is small doses of potassium iodide by mouth and injections of a bismuth salt. No arsenicals are given. A surprising effect is secured by small doses of potassium iodide.

DR. HOWARD FOX, New York: This patient's eruption was studied during the recent examination of the American Board of Dermatology and Syphilology. The lesions looked to me like a classic ulcerating nodular syphilid of considerable extent. I was told that the Wassermann reaction was negative, which was a little disturbing in view of the severity of the eruption. Because of a healed sinus in a neighboring part of the shoulder some members thought the eruption was a fungous infection. Some suggested blastomycosis or actinomycosis, as the patient was said to have improved after the administration of iodides.

The patient is a large robust-looking man who would tolerate antisyphilitic treatment at once, and in a short time his lesions should be healed.

It is unfortunate that the patient was kept in another department of the hospital for months before a dermatologist was called on for an opinion.

Atrophoderma with Telangiectasia. Presented by DR. OLIVER S. ORMSBY, Chicago.

Mrs. M. S., aged 61, has had this condition for forty-eight years. The eruption began on the thighs with redness and scaling. Nodules later developed. When she was first seen twelve years ago there was a generalized eruption made up of variously sized areas of wrinkled scaling telangiectatic atrophic patches. In addition, there were thickened scale-covered pale red patches and superficial nodules. The atrophy and telangiectasia were most evident on the breasts, arms, hips and buttocks. At this time poikiloderma and telangiectatitic lupus erythematosus were discussed.

At present a number of psoriasiform patches are present on the knees and other areas, in addition to the condition aforementioned. The histologic structure is that of idiopathic atrophy (Herxheimer).

DISCUSSION

DR. OLIVER S. ORMSBY, Chicago: This cutaneous disease is striking and has been difficult to classify. I have watched its progress for about twelve years and have seen little change in the condition. The chief disease always discussed has been poikiloderma vasculare (Jacobi). Both Dr. Jadassohn, of Breslau, Germany, and Dr. Bloch, of Zurich, Switzerland, saw her but did not definitely classify the condition.

A large number of dermatologists have been decided in their opinion that this condition was poikiloderma of Jacobi. It bears no relation to poikiloderma of Civatte, which is a pigmented telangiectatic condition usually seen on the sides of the neck or face in women. The first group of cases of poikiloderma (Jacobi) reported in this country included one which I had under observation for several

years (ARCH. DERMAT. & SYPH. **4**:563 [Nov.] 1921). A poikiloderma-like eruption sometimes occurs in other diseases. Dr. Oliver reported a case of mycosis fungoides with poikiloderma-like lesions. There are other diseases in which a poikiloderma-like eruption occurs. The disease is rare. There have been only a few cases reported in this country. The hyperpigmented telangiectatic areas in these cases closely resemble a healed radiodermatitis. When my first patient was shown before the Chicago Dermatological Society for diagnosis, Dr. Otto Foerster recognized the condition as poikiloderma, on which Jacobi had recently reported.

The patient just presented had areas of atrophy. She also had a large amount of telangiectasia but no pigmentation. Her lesions did not present the appearance of a healed radiodermatitis. The eruption was extensive on the breasts, arms, back and upper parts of the thighs. In the number of years I have seen her it has changed very little. It has been characterized all the time by itching. The histologic picture as described has been verified by Drs. Montgomery, Finnerud and other expert histologists, who agreed that it had the structure of dermatitis chronica atrophicans (Herxheimer). The psoriasiform lesions form a part of the picture, and I believe the term I gave the condition, atrophoderma with telangiectasia, describes it. I feel sure that poikiloderma can be excluded.

Generalized Telangiectasia. Presented by DR. S. W. BECKER and DR. M. E. OBERMAYER, Chicago.

Mrs. M. F., aged 39, was presented at a meeting of the Chicago Dermatological Society on Nov. 20, 1940 (page 1077).

Generalized Telangiectasia Associated with Buphthalmos. Presented by DR. J. E. GINSBERG, Chicago.

M. A. D., a girl aged 4 years, has had telangiectasia of small vessels since birth. These blanch on pressure and are purple during the cold weather. The right side vascularizes so that it becomes red on exercising, this being especially noticeable on the face. Naevus-anaemicus-like changes on the right thigh do not become pink on rubbing.

Her general health has been good, and her mentality is normal. She has had no serious diseases of childhood.

There is no similar anomaly in the mother's or father's families. One sister died five years ago at the age of 10 years of abscess of the brain (postmortem diagnosis), the cause of the abscess being unknown.

On examination the patient presents generalized telangiectasia of the right side both front and back, the right side of the face, across the buttocks, down the left arm to the elbow in front and only on the lower part of the arm in back. The right iris measures 13.5 mm. and the left iris 12 mm.; the left pupil is slightly greater than the right. The right eye is sensitive to light, and squint has been present since birth. The skin has become paler as the patient has grown older.

DISCUSSION OF CASES OF GENERALIZED TELANGIECTASIA

DR. FRED D. WEIDMAN, Philadelphia: To the general pathologist dilatations of any tube are understandable, much as plumbing is. Dilatation may occur as a result of defects or weakness of the wall, together with increases of intravascular pressure. After that, a long list of specific conditions could be arraigned which would accomplish the foregoing weakenings and stretchings as the result of degeneration of endothelium induced by toxic or malnutritive agencies. Incidentally, in his lecture yesterday Dr. Sturgis indicated the role of ascorbic acid (vitamin C) in maintaining the integrity of the cement substance of vascular endothelium, and perhaps that is a new thought in connection with these permanent capillary dilatations.

Perhaps an endocrine factor was present in a patient of mine who had generalized telangiectasia for many years; it disappeared when she became pregnant (Arnett, J. H., and Weidman, F. D.: Chronic Purpuric Eruption Without Demonstrable Blood Changes, *J. A. M. A.* **80**:1132 [April 21] 1923).

The role of pressure in the causation of telangiectasia came to me recently with special force in a patient with cirrhosis of the liver. There were numerous telangiectases of the order of the well known spider nevi scattered on the face and on the upper part of the chest. Several measured more than 2 cm. in diameter and exhibited central papules. The latter appeared angiomatous and pulsated strongly. Closer examination showed that the areola of radiating capillaries around them also pulsated, but pressure on the central papule caused the entire lesion to blanch.

A complete discussion of this subject (Patek, A. J., Jr.; Post, J., and Victor, J. C.: The Vascular "Spider" Associated with Cirrhosis of the Liver, *Am. J. M. Sc.* **200**:41, 1940) has recently appeared. The practical point for dermatologists to remember is that the spider nevus occurs frequently in patients with cirrhosis of the liver, mainly in the distribution of the superior vena cava, and that the pulsating papule in the center is perhaps unique for that condition. It would appear that the central mass is due to a special arteriole which courses to the surface of the skin and there divides, treelike, into arterioles which finally terminate in the pulsating capillaries. An analogy to the neuromyoarterial glomus of Masson has been drawn, but most incompletely. Perhaps increased blood pressure plays a part in the causation, as the lesion blanched depending on variations in blood pressure exerted in a sphygmomanometer cuff. The intriguing aspect of this study is that it supplies something tangible to work with in a field where so much is intangible.

DR. J. GARDNER HOPKINS, New York: I doubt that this condition is related to deficiency in vitamin C. There is no evidence of capillary fragility. The involved blood vessels stand a good deal of distention without rupturing.

Tuberculosis Cutis (Sarcoid? Lupus Pernio Type? Lupus Tumidus?).
Presented by DR. CLARK W. FINNERUD, Chicago.

J. M., a freight handler aged 59, was first seen on Dec. 1, 1938, because of an eruption involving chiefly the forehead and eyelids of twenty-four years' duration. His general history is essentially irrelevant.

He stated that at birth he had a red slightly elevated finger nail–sized soft nodule above the medial end of the left eyebrow (from his description apparently a hemangioma). In 1914 this lesion was traumatized, and it increased in size to that of a penny in three years. At that time he had fifteen roentgen ray treatments, which did not help it appreciably; so it was excised. Six years later (1923) red spots appeared at the sites of the stitch scars, and these gradually increased in size. A year later the involved area was about the size of a silver dollar. The lesion remained more or less stationary for the next nine or ten years, until the spring of 1938, when the skin of the forehead and eyelids became red and swollen.

Examination shows diffuse soft light reddish brown tumefaction of the skin of the forehead and eyelids, most pronounced just above the glabella. There is slight chronic roentgen ray dermatitis of the forehead.

Sections prepared for histologic study showed replacement of the corium by nests of epithelioid cells. Lymphocytic infiltration was present in variable amounts about the periphery of these nests, and in most of the nests a giant cell of the Langhans type was present. Many of the tubercles have formed around blood vessels. The elastic tissue in the involved areas was destroyed. The epidermis was thinned as the result of pressure of the underlying growth and in one portion was torn off in the preparation of the sections. Stains showed no acid-fast bacilli.

DISCUSSION

DR. H. E. MICHELSON, Minneapolis: Schaumann's disease is a syndrome the component parts of which are not always present to the same degree. The tissues

most commonly involved are the skin, the lungs, certain bones and lymph glands, and occasionally there are ocular manifestations. In reviewing the voluminous literature on this subject one is struck by the fact that any tissues in the body can be invaded by this peculiar infiltrate which characterizes sarcoid. The prognosis is good, but the time required for cure is long. There is no special treatment. The causation is not as yet certain. Tuberculosis, a virus and diathesis have been the most commonly discussed theoretic causes.

DR. CLARK W. FINNERUD, Chicago: I am convinced that the patient presents tuberculosis cutis of the atypical lupus vulgaris type.

DR. MARION B. SULZBERGER, New York: I have a suspicion that the dermatologists are all too conservative in the therapy of lupus vulgaris in this country. In the countries where this condition is common the treatment of choice in most cases is some selective destructive method. The methods used are designed to produce a sufficient degree of destruction of the lupus tissue itself and yet leave the intervening tissue as nearly intact as possible. Such selective procedures can be fairly radical and yet give excellent results, leaving a less disfiguring and more pliable scar. Perhaps the best method of accomplishing this end is close, fine cross scarification, followed by application of pyrogallol in petrolatum or gelante. Still another method is the repeated application of blistering doses of ultraviolet rays from a Kromayer lamp, as recommended by W. Jadassohn. Blister after blister is produced, each successive dose being applied to the preceding denuded area and the area not being allowed to heal until the treatment is completed. Methods such as these seem to be selective in their action, and excellent cosmetic results are thus obtained.

Dermatofibrosarcoma Protuberans. Presented by DR. R. H. SCULL, Chicago.

D. J., aged 60, presents a nodular protruding condition on the face. In 1926 he had a marble-sized nodule removed at Rawling's Sanitarium in Sandersville, Ga. In 1927 several nodular lesions of various size appeared around the site of removal of the first one. These were treated at the same institution with radium. In 1939 he was seen at the Cook County Hospital with the present recurrence.

The blood and the urine are normal. Histologic examination showed a fibrous growth with adult and young fibrous cells.

DISCUSSION

DR. FRANCIS E. SENEAR, Chicago: The condition in this case is an unusual and interesting example of one of the uncommon but not extremely rare dermatoses. This particular case has two features of interest: These lesions are seen more frequently in women, and in most of the cases the lesions occur on the trunk or extremities. I think I have probably encountered 15 cases of this disease and have read of many others. This is the first one in my experience in which the face has been involved.

The appearance in this case is typical for this condition. It usually begins with the development of intracutaneous infiltrates which gradually enlarge and flatten to produce large plaques. This feature usually develops slowly over a period of years. Subsequently the protuberants develop slowly; these are sometimes nodular, sometimes flat and sometimes large tumors. As a rule the early lesions have the same color as the normal skin; often they become purplish, and eventually they are apt to become eroded at the surface and at that time present a tomato red color. The lesions are hard, and only after becoming of considerable size do they become eroded and then occasionally softer. While the first plaquelike infiltrate is slow in growth, when other lesions develop they are apt to grow at a rapid rate and not infrequently reach the size of a plum or small apple in a few months' time. The lesion ordinarily limits itself to the skin, though one case is recorded in which the underlying muscle was involved In a case with which I am familiar there was questionable metastasis, and other cases

have been described in which metastases developed. The condition responds to surgical intervention if it is complete and extensive and to no other method of therapy. If the surgical procedure is not complete, it invariably recurs.

The histologic picture is interesting because, as the name indicates, the lesion is a mixture of fibromatous and sarcomatous elements. In the slow-growing cutaneous portion the structure is distinctly fibromatous, while in the later more rapidly growing portions sarcomatous elements predominate.

Xanthoma Juvenile. Presented by DR. OLIVER S. ORMSBY, Chicago.

A girl aged 5 years was first seen at the age of 1 year. The condition began on the cheeks at the age of 3 weeks. When first seen the lesions had a generalized symmetric distribution. They varied in size from that of a match head to that of the nail of the little finger and were oval or rounded distinctly elevated yellow soft nodules or plaques. They were numerous throughout the scalp, on the entire face, including the eyelids, on the neck, on the trunk and on the extremities, including the palms and soles. There was no familial history of diabetes or disease of the liver. During the four years in which this patient has been under observation and treatment the lesions have undergone involution of about 80 per cent.

DISCUSSION

DR. OLIVER S. ORMSBY: This case is one of the most extensive cases of xanthoma I have ever encountered. In some of the plaquelike areas the skin is wrinkled, presenting an appearance of atrophy, but I am not sure about atrophy being present. I do not think this condition is the McDonagh type of juvenile xanthoma. In this type, nevoxanthoendothelioma, the lesions are usually few in number and they clear up in two or three years. I think the original extensive xanthomatous involvement in so young a child and the involution of the lesions has been remarkable.

Cylindroma (Turban Tumor of the Scalp). Presented by DR. OLIVER S. Ormsby, Chicago.

A woman aged 48 has had the condition for forty-four years. The lesions consist of variously sized tumors on the scalp, on the forehead and in and behind the ears. On the scalp the tumors vary in size from that of a pea to that of a hazelnut. They are uniform, hemispheric and the normal color of the scalp or bluish. On the glabrous skin of the forehead the lesions vary in size from that of a pinhead to that of a match head and are of the usual type of epithelioma adenoides cysticum. Between twenty and thirty tumors have been removed surgically. Histologically the lesions are of the basal cell type. The mother and the sister of the patient were similarly affected.

DISCUSSION

DR. J. GARDNER HOPKINS, New York: There are almost as many names for this condition as there are cases reported, but the original description was made by Pringle. The little hard white tumors on the face, epithelioma adenoides cysticum, simply confirm what many believe: that though these tumors may differ in histologic appearance they are all epithelial nevi.

American Leishmaniasis. Presented by DR. TIBOR BENEDEK, Chicago.

The patient, a Jewish man aged 27, was born in Chicago in 1912, the second of five children. One brother and three sisters are living and have never had any disease of the skin. The mother died eleven years ago, of carcinoma. The father is alive and healthy.

At the age of 2 years, in 1914, he went with his parents to Russian Poland (Bialistok). The World War kept them there for four years, and he returned to the United States in 1918. He has never since left the Middle West.

He never before had any disease of the skin. In the fall of 1933 the cartilaginous part of the nose, the alae and the septum nasi became red and swollen to about twice the normal size. This swelling gradually subsided, but about four weeks after the onset the nose began to get flat and the septum and the cartilaginous part of the nose disappeared. During this time he had no medical care. Only when the nose was almost totally collapsed was he given medical care, and on the basis of a positive Wassermann reaction and the family history a diagnosis was made of congenital syphilis.

The diagnosis of American leishmaniasis was made and proved (1) by demonstrating Leishmania tropica (*a*) in the open ulcers of the skin and mucous membrane, (*b*) without admixture of other organisms in material from unopened boils, (*c*) in the contents of cantharis blisters four times during fourteen months' observation and (*d*) in the histologic section of two biopsy specimens taken from different parts of the ulceration and (2) by the transmission and reproduction of the same disease in the guinea pig.

Besides lesions of the skin and the oral mucosa there was an osteomyelitis of precisely circumscribed areas of the right humerus, the right clavicle and the left ulna and involving the astragalus of the right ankle.

The patient was given fuadin, twenty-two injections totaling 110 cc. in the first course and eighty injections totaling 400 cc. in a second course within fourteen months. Between the two courses of fuadin he was given three roentgen ray treatments, 200 r in each session. The effect of the roentgen ray treatment was only temporary and the value of the fuadin medication doubtful.

Since May 1939 the patient has been in the Cook County Infirmary, Oak Forest, Ill., where he has been given further fuadin treatment.

An extensive report of this first autochthonous case of American leishmaniasis in the United States has already been published (Benedek, T.: American Leishmaniasis, *J. Trop. Med.* **43**:147 [June 1]; 164 [June 15] 1940).

DISCUSSION

DR. HOWARD FOX, New York: Whether or not the disease is American leishmaniasis, the case is certainly most unusual. The destruction of this man's face has gone on to such a degree that he now presents a terrible picture.

In order to discuss this case properly, I must say a few words about the types of leishmaniasis. The so-called oriental sore is caused by L. tropica, while the American type of the disease is caused by Leishmania braziliensis. Dr. Benedek made a slight error when he spoke of L. tropica in a case presented as one of American leishmaniasis. I am sure this was not intended. If this disease is really American leishmaniasis, the point that I cannot understand is that the patient apparently contracted it in Poland. It was my understanding that this type of the disease was confined to the Western Hemisphere. The organisms shown in the illustrations by Dr. Benedek suggested the appearance of leishmanias.

The organisms causing the three types of leishmaniasis (kala-azar, oriental sore and American leishmaniasis) all look alike morphologically and in cultures. The only possible way to differentiate them is by the immunologic methods of Noguchi. As he happened at one time to have cultures of the three types of organisms, he inoculated rabbits with each and tested the immune serum for agglutinating effects on each of the respective organisms.

I have some photographs of patients with the American type of leishmaniasis which I took in Brazil, and while some of them show considerable deformity of the nose, I have never seen a condition approach the appearance of this patient.

Necrobiosis Lipoidica Diabeticorum Plus Arteriosclerosis. Presented by DR. J. E. GINSBERG, Chicago.

A woman aged 24 presents extensive reddish orange plaques on the anterior aspects of the legs. She has been known to have diabetes since childhood and is

now being treated with insulin. The lesions improve a great deal when the patient is under proper diabetic management. There is also present an extensive arteriosclerosis, as demonstrated in the roentgenograms of the feet.

DISCUSSION

DR. M. R. CARO, Chicago: From the clinical appearance of the condition I think it is a classic example of necrobiosis lipoidica diabeticorum. The border of the lesion is yellowish; the patch feels like scleroderma, and in the center of each lesion there is definite atrophy. I do not know whether there was any previous ulceration, but in many cases of this kind there is an ulcer preceding the atrophy and scarring.

Actinomycosis. Presented by DR. HERBERT RATTNER and DR. MAURICE DORNE, Chicago.

L. G., a Negro aged 26, presents several discharging sinuses on the left side of the face and neck. There is a verrucous growth surrounding a discharging sinus below the outer angle of the left eye. A soft tender fluctuating swelling, about 3 cm. in diameter, is present in the left temporal region. The condition began in March 1939 as a painful pimple, which grew into a swollen indurated mass at the angle of the left jaw. Shortly thereafter several more similar lesions appeared and broke down with the formation of sinuses. One sinus perforated through the external part of the left ear. Repeated smears and cultures at that time gave negative results. He had been receiving antisyphilitic treatment previous to the onset of his condition and the result of a therapeutic test with potassium iodide was negative A serologic test of the blood gave negative results. Surgical incision and roentgen ray therapy caused no improvement. Repeated smears and cultures gave negative results. Three weeks ago a sharp pain developed in the neck and postauricular regions. The neck became stiff, so that motion was limited in all directions. A painful swelling developed in the left temporomandibular region, which broke down with a discharge of yellow thick pus two weeks later. A Gram stain of this material revealed Actinomyces, and this was confirmed by culture. A Frei test gave a negative reaction. The patient is now receiving sulfanilamide and roentgen ray therapy.

A roentgenogram of the chest revealed no definite evidence of any pulmonary changes. A roentgenogram of the left side of the face, including the zygoma, revealed increased density of the malar bone extending into the zygomatic process, compatible with an infectious process.

A Case of Sarcoidosis (Shaumann's Disease). Presented by DR. THEODORE CORNBLEET.

L. H., a 32 year old Negro, states that the first evidence of any trouble appeared six years ago with the development of a nodule on the right upper eyelid. This was excised but later returned. New lesions appeared on other areas of the face. Within the past three years he has shown swelling of the parotid glands, salivary glands and lacrimal glands (Mikulicz' disease), a nodule in the testicle, laryngitis with hoarseness, questionable abdominal symptoms and changes in the bones of the fingers. An orchidectomy was performed, and sarcoid changes were shown histologically.

A roentgenogram of the lungs showed an increase of the hilar markings with infiltration radiating outward from the hilum.

The patient has received roentgen ray therapy to the nose and the lips with some improvement. He has continued to work except for short periods of time when confined to the hospital or at home for observation and treatment.

Fox-Fordyce Disease. Presented by DR. MICHAEL H. EBERT and DR. DAVID OMENS, Chicago.

A. A., a 26 year old Negress, now seven months pregnant, has had pruritic papules under the axillas, around the nipples of the breasts and on the labia

since the age of 15, accompanied by sparsity of hair in those areas. The lesions have neither regressed nor progressed since they were first noticed.

Syphilitic Glossitis and Tertiary Syphilis of the Hand. Presented by Dr. M. H. Ebert and Dr. David Omens, Chicago.

D. W., a 70 year old white woman, noticed a dermatitis of her right hand three years ago while attending a sick elderly woman who later died. The eruption did not respond to local therapy but spread gradually to the palms and the fingers. She has never sought medical aid until two weeks ago, when she was seen for the first time in the dermatologic clinic. She has always considered herself in good health and has been married more than fifty years but has never been pregnant. Her husband is over 90 years of age and is confined to bed because of a cerebral accident.

Examination of the right hand reveals an erythematous scalding and crusting dermatitis of the index and middle fingers and the base of the thumb dorsally and confluent with the dermatitis on the palm and the flexor surface of the wrist. There is a small patch in the center of the palm free of any activity and covered with skin which is apparently normal but thinner than normal on palpation. Activity is more noticeable at the periphery, which has a polycyclic outline. The tongue is smooth and covered with a slick shiny grayish white membrane that does not come off, except for irregular linear erosions running longitudinally on the right third of the tongue. The pupils react to light and in accommodation.

On Dec. 5, 1940 the Kahn reaction was positive and the Wassermann reaction anticomplementary.

Lipomatosis Dolorosa (Dercum's Disease) for Twenty-One Years with Rosacea for Eighteen Years. Presented by Dr. J. E. Ginsberg, Chicago.

M. S., a man aged 53, first noticed the eruption twenty-one years ago. Lesions appeared first on the extremities, and recumbency habits have been modified during the years so that the lesions are favored. No members of the family, including five children, have a similar disease. A left nephrectomy was performed on the patient five years ago because of infected calculus. The basal metabolic rate has ranged from -5 to $+10$ per cent over a long period. The patient also complains of difficulty of seeing at night.

Chemical studies of the blood showed no distinct abnormalities. Histologic examination revealed a lipoma structure of the tumors.

At present examination reveals tender, subcutaneous soft lobular masses, up to 6 inches (15 cm.) in diameter, on the arms, the chest, the abdomen, the anterior and posterior aspects of the legs and the buttocks. The blood pressure is 100 systolic and 65 diastolic. The patient also has chronic osteoarthritis.

Much treatment of various types by metabolic experts for many years has not altered the course of the disease.

Book Reviews

Dermatologic Treatment in General Practice. By Marion B. Sulzberger, M.D., and Jack Wolf, M.D. Price, $4.50. Pp. 675, with 65 illustrations. Chicago: The Year Book Publishers, Inc., 1940.

An astonishing amount of information is contained in this octavo-sized book of 675 pages. The text is divided into sixteen chapters, and discussion of rare dermatoses is omitted. Details of roentgen and radium therapy and other forms of treatment which require the knowledge of a specialist are also left out. These omissions allow more space for discussion of the common dermatoses which are frequently treated in general practice.

The opinions expressed are the result of long experience; they are carefully worded and are ideas with which the modern dermatologist would usually agree. The recognized ability of the senior author is apparent throughout the text, the chapters on eczematous dermatoses, urticaria and atopic dermatitis being especially valuable. Adequate information is given in describing each disease, and this is often followed by lists of diseases which must be considered in differential diagnosis.

In the average text on dermatology the preliminary chapters on general diagnosis and treatment are usually dull and uninteresting. In this volume the initial chapters on "The Principles of Diagnosis, of Topical Medicine and of Other Measures" are ably written and should prove of interest to the specialist as well as to the general practitioner.

The illustrations include a fair number of photographs, which are generally good, in spite of a little crowding, six or more being included on one page at times. Some useful illustrations include those which depict methods of applying topical remedies and necessary dressings. The reviewer, however, thinks the so-called "slush" method of using solid carbon dioxide is given unnecessary prominence in the illustrations, in view of its controversial or limited value. There are enough prescriptions to satisfy the average practitioner. At least the volume is not cluttered with this kind of information.

The discussion of such questions as the differential diagnosis of dermatophytids (page 270) might prove discouraging to the general practitioner until he reads the frank statement that their diagnosis "not uncommonly puts the most experienced specialist in a quandary." It is also refreshing to read the statement that the "diagnosis of eczematous dermatophytid of the hands is being overworked."

The volume contains valuable information for treatment by the general practitioner, and much of it could be read with profit by the dermatologist. It is a credit to the authors.

Practical Handbook of the Pathology of the Skin. By J. M. H. Macleod, M.D., and I. Muende. Second edition. Price, 42 shillings. Pp. 415, with 125 black-and-white and 27 colored illustrations. London: H. K. Lewis & Co., Ltd., 1940.

It is difficult in writing a book on cutaneous pathology to include all the essentials and still to keep the text to a convenient and readily accessible size. The authors have succeeded in doing this. A considerable part of the book is devoted to the composition of stains, to laboratory technic, to the preparation of tissue and to an outline of mycology. In the remaining portion there is a consideration of the normal and the pathologic-histologic picture of different parts of the skin.

The section on pathology discusses first the epidermis and then the cutis. Starting from the surface each layer is taken up separately. Clinical entities are enumerated but are not considered in detail. The cutis is dealt with in a similar

manner. The classifications thus formulated are useful. The pathologic processes, such as inflammation and its various phases, granulomas and neoplasms, are presented only as they affect the various layers.

In teaching dermal pathology it is customery to start with inflammation and slowly but consecutively unfold the subject. In this respect, the book is not a good guide for the beginner, for it is necessary to understand the processes of disease before one can read the book. For example, the subject of cancer of the skin is considered before urticaria or erythema multiforme.

The photomicographs are good, and most of them are instructive. However, the reviewer thinks that colored photomicrographs would have been preferable to drawings.

Realizing that it is important to keep the work condensed, one understands that it cannot be overburdened with references. It seems, however, that there are far too few references, as many important contributions which have appeared in recent years have not been included.

The book is a valuable addition to every dermatologic library. It is concise, and the classifications are helpful. As there are few textbooks on cutaneous pathology in English and as those in other languages are not up to date and are too cumbersome for general use, the publication of this work is most welcome.

Strange Malady. By Warren T. Vaughan, M.D. Price, $3.00. Pp. 268, with 7 halftones and 23 line drawings. New York: Doubleday, Doran & Company, Inc., 1941.

This volume, which tells the story of allergy, is the second one of a series to be published by the American Association for the Advancement of Science. The title, "Strange Malady," is a literal translation of the word atopy. As the author aptly says, the condition is strange not in the sense of rarity but only in the sense of being different from other common maladies.

Those who are familiar with other, more technical books written by Dr. Vaughan will find the characteristic thoroughness of his writing present in this lighter, more friendly publication. The informality does not cause the book to lose any of its forcefulness; in fact, the volume is made more useful by this virtue.

All phases of the complicated subject of allergy are covered. Informal and easily read chapters are devoted to the history of allergy, a description of the various allergic diseases, their diagnosis and their treatment. Such phenomena as anaphylaxis, atopy, sensitization and prophylaxis are described in an understandable manner, and in addition the derivation of these terms is given.

A unique and most valuable feature consists of ingenious line drawings which explain in a simple manner the mechanism of antigen-antibody reactions, immunity, passive transfer of sensitization and many other biologic processes.

This book is recommended without hesitation to the lay public because of its clear, understandable, honest presentation of this important subject which has become so popular. To members of the medical profession who have forgotten some of the details of the side chain theory of immunity or are a little hazy about such subjects as haptens this book will be a welcome review.

Modern Practice in Leather Manufacture. By John Arthur Wilson, Sc.D. Price, $9.50, cloth. Pp. 744, with illustrations. New York: Rheinhold Publishing Corp., 1941.

To dermatologists interested in occupational diseases of the skin this volume will be a valuable source of information on the causes of dermatoses contracted in the leather industry and its allied fields.

In great detail the author has described the various trade processes employed in the conversion of hides into leather, beginning with the handling of the raw stock and carrying through until the hide is ready for its initial tanning. The tanning process, with its accompanying chemical reactions as well as the ultimate

fatliquoring and stuffing to soften the hides, is completely discussed. Coloring and finishing processes involving the use of many substances capable of producing a contact dermatitis are fully outlined.

Though written for persons connected with the leather industry, the volume includes a wealth of material of interest to the dermatologist. Besides the immediate point of view involving contact dermatitis in the leather industry, the physician may profit from the discussion of the histology and physiology of the various skins and hides in relation to those of the human skin. A group of admirable photomicrographs illustrating the subject are of considerable value.

Of further interest are discussions of the various diseases to which the hide is subject. These include anthrax, foot and mouth disease, rinderpest and the damage done by such parasites as grubs, lice, ticks and fleas.

The volume is profusely illustrated, showing the various manufacturing processes, and should prove a valuable reference work for the dermatologist in industrial diseases.

Manual of Clinical Chemistry. By Miriam Reiner, M.Sc., Assistant Chemist to the Mount Sinai Hospital, New York. Price, $3.00, cloth. Pp. 296, with 18 illustrations. New York: Interscience Publishers, Inc., 1941.

This manual is compact, printed in clear type and designed primarily for the biochemical technician. It is essentially a book on technic with explicit directions arranged in orderly sequence under bold informative captions.

There is a preliminary chapter containing general information pertaining to chemical analyses, with instructions for the preparation of standard solutions and indicators. The author of and the reference to each test precede the technical details, as well as brief explanations of the chemical basis involved. The choice of methods is satisfactory and in accord with the best up-to-date practice. Several standard procedures are given for some of the more common chemical blood tests.

Toxicologic methods include determinations of arsenic, lead, mercury and barbiturates. Bromide estimations in the blood have not been included in this chapter. Methods for the determination of sulfanilamide levels in the blood and urine are given.

Chapters on "sex hormones" and vitamins contain approved technics for assays of these important components.

An index of authors is included, in addition to the usual index of subjects.

The book has many features which commend it to the laboratory worker, not the least important being conservation of time through a direct, detailed approach to the subject matter.

What Are the Vitamins? Walter H. Eddy. Price, $2.50. Pp. 247. New York: Reinhold Publishing Corporation, 1941.

In this, the heyday of the vitamin cult, when the administration of vitamins is apt to be based on rule of thumb, it is refreshing to come on a brief, inexpensive text by a professor of physiologic chemistry at Teachers' College, Columbia University, which gives in intelligible form the chemistry of the vitamins and what is known of their physiologic action. He considers the vitamins serially, with a brief historical background; he reviews their chemistry and the rationale of their clinical administration. The amount of each vitamin required by man in health and in disease and the common food sources are listed. The bizarre terminology is clarified; units of measurement are defined, and international units based on bioassay are correlated with metric weights of the crystalline vitamins. There is an excellent series of tables on the vitamin content in ordinary helpings of common foods. Particularly pertinent is the chapter on biologic oxidation. No one can hope to grasp the physiologic action of the various fractions of the vitamin B complex without a working knowledge of biologic oxidation.

No attempt is made to review the monumental literature, but there is a good working bibliography at the end of each chapter.

The dermatologist must not expect to find listed specific indications for the use of vitamins in cutaneous diseases. He must get this from other sources.

This book is a competent, brief summary of a scientific field which is in the process of rapid transformation.

News and Comment

THE AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY

A written examination will be given by the American Board of Dermatology and Syphilology on Nov. 3, 1941, and an oral examination, on December 12 and 13. Applications for the former should be in the hands of the Secretary, Dr. C. Guy Lane, 416 Marlborough Street, Boston, by September 23, and for the latter, by November 8.

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